THE LANCET.

No. 4548. Vol. CLXXIX. LONDON, SATURDAY, OCTOBER 29, 1910. Pp. 144.

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An Address
ON
THE CHIEF AIM OF MEDICINE.

Delivered at the Public Health Laboratory, Victoria University of Manchester, on Oct. 7th, 1910,

BY SHERIDAN DELÉPINE, M.B., C.M. EDIN., M.SC. MANCH.,

PROFESSOR OF PUBLIC HEALTH AND BACTERIOLOGY; DIRECTOR OF THE PUBLIC HEALTH LABORATORY, VICTORIA UNIVERSITY OF MANCHESTER.

GENTLEMEN,—In the early days of civilisation disease was attributed to supernatural agencies, demoniacal or divine, which had, under the influence of certain conjunctions of circumstances, the power to injure materially the body.

MEDICINE IN EARLY TIMES.

My learned colleague, Professor Hogg, whose knowledge of early Babylonian texts allows him to speak with authority, informs me that he has not found evidence in Babylonian records of any preventive methods other than ceremonies intended to ward off spirits. In answer to my inquiries he has kindly given me the following information regarding the practice of medicine in those early days. "People were apt to attach more importance to correct ceremonial in the administration of drugs or in the performance of operations than to the physical effects of the treatment used. To a certain extent, indeed, healing was a priestly duty. The priests, however, may have known a good deal more than the people about the importance of physical treatment, and the word *asu* (physician-healer) may mean a 'skilled' healer, with whom the priest cooperated, rather than a class of priest; the precise relations of the different types of office have not yet been made out fully. According to the subscription to a medical text in the library of the great Assyrian king Ashur-bani-pal, there were three divisions in the healing art: 'healing' (literally, vivifying), 'surgery,' and 'exorcism."[1]

Notwithstanding the fact that the influence of climate, season, &c., is discussed by Hippocrates in his books on "Epidemics," the therapeutic aspect of medicine continued to monopolise almost, if not entirely, the attention of the laity and of the medical profession. Even at the present day the greatest compliment that can be offered to a physician is to call him a healer (*vide* interesting article in the *Manchester Guardian* on the occasion of the centenary of Dr. John Brown).

COMPARISON OF PREVENTIVE AND CURATIVE MEDICINE.

The absorbing interest taken by the medical profession in the treatment of disease by vaccine-therapy was well shown by the length of the discussion which took place before the Royal Society of Medicine during the months of May and June of this year, while only this week the marvellous successes of modern surgery formed the subject of the eloquent inaugural address delivered by Professor Thorburn. I could not help feeling, however, while listening to my distinguished colleague, that much of the success of modern surgery is attributable to the better knowledge of the causes and prevention of infection which has followed the pioneer work of Pasteur and Lister. The growth of this knowledge, which had been exceedingly slow until the beginning of the last century, has during the last 50 years been remarkably rapid and has led to a new conception of the *chief aim of medicine*. The truth of the saying "Prevention is better than cure" has undoubtedly been long accepted, but as regards disease it was only during the second half of the last century that this principle has passed from the sphere of the abstract to that of practice.

In order to realise the consequences of this evolution of ideas it is necessary to compare the objects of curative medicine with those of preventive medicine. Treatment of disease, whether medical or surgical, implies the previous existence of disease, and has therefore to do with living organisms that have already suffered damage and loss of energy which the most successful treatment can only reduce to a minimum but cannot obliterate entirely. Preventive medicine, on the other hand, aims at preventing the occurrence of disease, and, in principle, has to deal on the one hand with living organisms not yet damaged by disease, and, on the other hand, with agents capable of producing disease before the latter have had the opportunity of injuring the former. It is true that, since diseased individuals frequently act as centres of infection, therapeutical methods may find a useful place in the work of prevention, but it is clear that the existence of any case of infection is in itself proof that preventive methods have been neglected or applied unsuccessfully. The object of preventive medicine is therefore to keep the living organisms in that state characterised by a certain *duration of life, absence of pain, capacity for work, and power of reproduction* which is commonly known as *health*.

"It has often been said that the life of man is a perpetual struggle with the forces of nature; that the continual effort is to oppose the tendency to decay and disintegration which is the fate of all organised beings." These words, which I quote from an elementary treatise by F. S. B. François de Chaumont,[2] do not appear to me to indicate a theory upon which a true conception of health could be based. I think that we must look upon health as the *normal reaction* of the *normal organism* to its *average environment and circumstances*. According to this view there is nothing final in our conception of health, for no biologist would be justified in supposing that any living species has reached the limits of its progressive evolution, so long as there is no clear evidence of regressive changes tending towards extinction.

Prevention of disease should not, therefore, be considered as the ultimate aim of hygiene, for it is not unreasonable to hope that as knowledge of functional activities and of the effects of external agencies upon living organisms becomes more complete, the day may come when man will be in a position so to control the conditions of life as to raise the standard of health above the present level. I doubt whether it will be given to any of us to see that day: all we can hope to do is to prepare the way by devoting our energies to the prevention of diseases of which the cause is known, and to the discovery of causes at present unknown. The incompleteness of our knowledge renders this work slow and laborious, but less ungrateful than it must have been to our predecessors.

RESULTS OF PREVENTIVE MEDICINE.

Thanks to the work of Dr. W. Farr and of his successors we have the means of estimating numerically the effects of preventive work upon the health of the inhabitants of this kingdom, and the results obtained during the last 50 years are most encouraging. It is not always easy to interpret correctly detailed statistics, and more particularly those based upon the diagnosis of non-fatal illnesses, because the value of statistics depends entirely upon the accuracy of the observations upon which they are based, but when simple records of deaths are dealt with some confidence may be attached to them. The following tables, which I have taken from the Seventy-first Annual Report of the Registrar-General (1908), show (A) the population of England and Wales for every fifth year from 1861 to 1905, and for the three following years, and (B) the general death-rates for each quinquennium during the same period.

(A) *Population of England and Wales. (Loc. cit. Table I., p. 2.)*

Years.	Population.
1861	20,119,314
1865	21,145,151
1870	22,501,316
1875	24,045,385
1880	25,714,288
1885	27,220,706
1890	28,763,673
1895	30,451,528
1900	32,249,187
1905	34,152,977
1906	34,547,016
1907	34,945,600
1908	35,348,780

(B) *Annual Rate of Mortality per 1000 Persons Living. (Loc. cit. XXXVI.)*

Years.	Rate for persons.
1861–1865	21·4
1866–1870	21·2
1871–1875	20·9
1876–1880	19·8
1881–1885	18·7
1886–1890	18·5
1891–1895	18·5
1896–1900	17·6
1901–1905	16·0
1906	15·4
1907	15·0
1908	14·7

[1] The Babylonian texts give full descriptions of symptoms and prescribe detailed treatment (except in certain cases where they say the physician is to do nothing: "The sick person will die"), but it is likely enough that in those cases also non-physical means were used in addition to the physical.

[2] The Habitation in Relation to Health, 1897.

If we compare roughly the rate of mortality for the quinquennium 1861–1865 with that for the quinquennium 1901–1905 we find that during the five years 1861–1865 out of 20,000,000 persons some 428,000 died yearly, and during the five years 1901–1905 out of the same number of persons some 320,000 died yearly, which indicates that in the second quinquennium out of 20,000,000 persons 108,000 who would have died each year had the 1861–65 rate remained unchanged were during the period 1901–1905 still alive at the end of each of these years. To estimate accurately the value of these figures it would be necessary to enter into many particulars, but it is not necessary to make an absolute estimate of their value to form a general idea of the tendency which they indicate.

Marked as has been the reduction of mortality during these 48 years it is easy to show that further progress is to be expected. An analysis of the chief causes of death during the year 1908 proves that many of these deaths were attributable to infectious diseases or to lesions many of which were due to the previous occurrence of infectious diseases.

Table C, which is based upon the figures published in the Seventy-first Annual Report of the Registrar-General (LXXX.), shows that more than one-half of the deaths which occurred in England and Wales were due to avoidable causes.

C. Proportion of Deaths from the Principal Causes to Total Deaths in England and Wales, 1908. (Loc. cit. LXXX.)

	Proportion per 1000 deaths from all causes.	Rate per 1,000,000 living.
Measles	15·4	230
Influenza	19·4	290
Whooping-cough	18·9	280
Diphtheria	10·7	160
Diarrhœa	35·4	520
Pneumonia	80·3	1,180
Tuberculosis, all forms	107·8—287·9	1,580— 4,240
Cancer	62·9— 62·9	920— 920
Diseases of the nervous system	64·0	940
Diseases of the heart	95·0	1,410
Diseases of the blood-vessels	60·2	880
Diseases of the respiratory system	88·7	1,300
Diseases of the digestive system	54·6	800
Diseases of the urinary system	32·9—395·4	480— 5,810
Other causes	76·6— 76·6	1,120— 1,120
Premature births and congenital defects	45·7	670
Atrophy debility	28·7	420
Violence	38·7—113·1	570— 1,660
Old age	63·2— 63·2	930— 930
All causes	1000—999·1	14,680—14,680

The records given in Table C show how much remains to be done in the field of preventive medicine. Disease will for a long time to come still claim victims who must look to the skilled physician and surgeon for help. The therapeutical art with all its anxieties and triumphs, its strong appeal to human sympathies and its well-deserved rewards, will continue to be the most attractive branch of medicine. Meanwhile preventive medicine must discover more and more efficient means of protecting individuals and communities against disease, and thus confer upon humanity benefits which, though inestimable, cannot evoke the same personal gratitude as successful treatment.

PROBLEMS PRESENTED IN THE CONTROL OF INFECTIOUS DISEASE.

It is impossible for individuals to realise the extent of benefits the need of which they have not felt because they have been saved the pangs of disease; it is from the State that the recognition of such services should come. In the course of a few remarks which Dr. Arthur Ransome made on the occasion of the opening of this laboratory he said: "The health of the people is the supreme law not only for statesmen and law-givers but for the whole community. The Common Health comes before the Common Wealth, which, indeed, would be impossible of attainment without it." These words indicate the principle which must have guided legislators ancient and modern who have paid attention to the control of disease by legislative and administrative methods.[3] It is specially to this aspect of preventive medicine that the terms Public Health and State medicine are applicable. It is clear that sanitary laws are at most the expression of the knowledge available at the time of their promulgation; their usefulness depends on the soundness of that knowledge and on the possibility of making it applicable to the masses through some kind of administrative machinery. The medical advisers of sanitary authorities have, therefore, not only the task of contributing to the advance of knowledge, but they have also to see that this knowledge is adequately reflected by the sanitary laws which they have to administer. While the medical officer of health must be progressive he must also be patient, for the problems he has to deal with are very intricate. Thus, taking infectious diseases as an example, it must always be remembered that the occurrence of infection is not determined only by the essential causal agent, but also by the coöperative agency of various factors, of which, under special circumstances, some become so important that they more or less completely overshadow the essential cause. This is particularly noticeable in the case of diseases such as tuberculosis, of which the essential cause is a widely distributed microbe. If, whenever the opportunity of infection occurred, the tubercle bacillus were abundant or virulent enough, and its possible victims were in a receptive state, there would be very few persons free from tuberculosis among civilised communities.

The importance of predisposing factors is often so great that not a few clinicians and administrators have given but scant attention to the essential cause. It must be acknowledged that in many cases excellent results have been obtained by dealing thoroughly with predisposing causes, and that often, in the present state of science, no other course is open to us. It is, however, never safe to disregard, even temporarily or partially, the *causa causans*, because this essential factor may under the influence of various circumstances acquire excessive powers. Neither is it safe, for preventive purposes, to rely entirely upon the action of natural or artificial curative agencies, because these may fail. Recoveries from infectious diseases may be apparent or real, and do not invariably result in so great a reduction in the number of infective centres as might be expected. Recoveries brought about by natural processes are more common than is generally suspected, and, together with the existence of cases of infection without clear symptoms, introduce an additional element of complexity in our estimates of the occurrence and distribution of centres of infection. In studying the conditions which influence the prevalence of any infectious disease, and which must therefore be considered in connexion with prevention, it is necessary to take account of a great number of factors which may be roughly grouped into the following categories: distribution and habits of the infecting parasite; conditions influencing the quantity of the parasite; conditions influencing the virulence of the parasite; opportunities and channels of infection; conditions influencing the resistance of the possible host; conditions influencing the rapidity and completeness of recoveries.

I might show that with regard to non-infectious preventable diseases the problems to be solved are also very complicated, but what I have said of infectious diseases is sufficient to indicate that although public health has a very clear and well-defined object it cannot be called a science in the same sense as physics, chemistry, physiology, &c.

SCIENTIFIC TRAINING OF THE MEDICAL OFFICER OF HEALTH.

To discharge his duties efficiently the medical officer of health should have some general and practical knowledge of certain branches of physics, chemistry, geology, botany, zoology, engineering, law, and statistical methods in addition to a fuller acquaintance with human physiology, pathology, clinical medicine, and epidemiology. It is clear that no man could be an expert in all these sciences, each of which has become more than enough to satisfy the energies of any modern scientific worker. The hygienist should, however, have a scientific training sufficiently broad to allow him to grasp the general meaning and relations of

[3] The development of sanitary legislation forms the subject of the very interesting and terse chapter on the Rise and Progress of Preventive Medicine in Dr. Hamer's Manual of Hygiene (pp. 1 to 15). London, 1902.

natural phenomena which may influence the occurrence of disease; he should also have some practical knowledge of the methods that are used in the study of these phenomena and of their relation to the occurrence of disease.

It is unfortunate that the choice of public health as a career is usually made only after the completion of ordinary medical studies, in which a considerable amount of time is devoted to subjects which are of little importance to the health officer, while little attention is paid to matters that are of the utmost importance in preventive medicine. If medical students who wish to enter the public health service could adapt the curriculum to their needs they would find it advantageous to devote the first three years of their studies to certain branches of physics, chemistry, geology, botany, zoology, human anatomy, and physiology, and should make themselves sufficiently conversant with mathematics to be able to work out some of the simpler physical and statistical problems. In the second part of the curriculum much of the time which is now given to operative surgery and to midwifery might with great advantage be devoted to the study of the etiology, pathology, and management of infectious and other preventable diseases. Under the present conditions candidates for the Diploma in Public Health have generally to make up in about nine or twelve months the deficiencies of the ordinary medical curriculum, and they must in addition study sanitary law, sanitary administration, vital statistics, and other matters relating to the duties of medical officers of health.

In order that this short period of post-graduate studies should meet the requirements of the public health student, it is obviously necessary that the teaching be so coördinated that each subject claims an amount of attention proportional to its importance. It is also desirable that the student should come in contact with teachers who have themselves an intimate practical acquaintance with the subject they teach. For reasons which I have already explained, I do not believe that any single teacher can be equally interested and competent in the various sciences bearing upon public health. It follows from this that in the short period of nine months the student should come in contact with a number of experts, and in order that this should not be a source of unbearable burdens it is essential that the various parts of the course should be well coördinated.

We have in this school striven, as far as was in our power, to follow this policy. With the coöperation and assistance of my colleagues I made arrangements some eight years ago for the teaching of the subjects of the first part of the D.P.H. examination which have, I believe, rendered the work of the candidates both easier and more profitable. On the occasion of the renaming of the chair which I hold, the University has sanctioned the extension of this method to the subjects of the second part of the D.P.H. examination. Under this new arrangement it will become possible for public health students to obtain in this laboratory from well-known administrators courses of lectures on sanitary engineering, sanitary law and administration, vital statistics, school hygiene, factory hygiene, and other special subjects which will render the study of these branches of administration simpler and more fruitful than in the past. Dr. Tattersall and Dr. Brindley will lecture on public health administration generally. Dr. Niven will deal fully with one subject, the administrative control of tuberculosis. The importance which school hygiene has acquired of late years is ample justification for the appointment of Dr. Meredith Young as lecturer on school hygiene.

With regard to factory hygiene, it is remarkable that a subject so important to industrial communities should have so long been unrepresented by a lecturer. The first course on factory hygiene will be given next summer by Dr. Legge, and you are to be congratulated on having the opportunity to listen to one who is so high an authority on the subject. I may add that the Home Secretary and Dr. Whitelegge have taken a warm interest in this extension of our work. I have also the pleasure of announcing that Professor Hickson will, for the first time, give in the laboratory a few lectures introductory to the study of animal parasites. This constitutes the only change which we have made with regard to the teaching of the sciences upon which the practice of public health is founded.

A Clinical Lecture

ON

HÆMATEMESIS.

Delivered at the London School of Clinical Medicine, Seamen's Hospital, Greenwich, on Oct. 10th, 1910,

BY SIR DYCE DUCKWORTH, BART.,
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GENTLEMEN,—I propose to discuss with you to-day some of the causes of gastric hæmorrhage, and the appropriate treatment for patients suffering from it. A case illustrating this subject has lately been in my wards, and affords a suitable text for this lecture. As you know, we have seldom female patients in this hospital, but as we receive emergency cases here, and an attack of severe hæmatemesis distinctly comes into that category, the subject of it was admitted on July 3rd. I will give you the particulars of it as concisely as I can.

ILLUSTRATIVE CASE.

A woman, aged 38 years, married, mother of a daughter aged 18 years, was taking a walk in the afternoon when she became faint and suddenly vomited nearly a pint of blood. She was much frightened and distressed on arrival here. She was put to bed and laid flat without a pillow. Her pulse was feeble, 104, and her respirations were 24. Her colour was good. No pain was complained of. A hypodermic injection of a quarter of a grain of morphine was given, and nothing by the mouth. A nutrient enema was administered. She passed a quiet night. There was a history of poor health and of continuous severe pain in the left hypochondriac region for two months previously, and of vomiting immediately after meals. Only light food could be taken. There had been no vomiting for three days before admission, and no blood had ever been seen in the vomited matter. Three years ago she suffered from indigestion for some time. She had always been very temperate and able to get good food. The family history was satisfactory.

Further examination next day showed that the heart's apex was in the left nipple line; the sounds were natural and the pulse was 96, of low tension. The mucous membranes were rather pale. She had several septic teeth and pyorrhœa alveolaris. The lungs were natural. The abdomen was in no pain, and no tenderness was caused by light palpation. The catamenia were regular. She was now menstruating.

In spite of absolute rest and avoidance of any food, not even water, by the stomach, there was a return of hæmorrhage. Morphine was repeated. On July 5th at 2.30 A.M. there was some nausea, and a little blood-stained mucus was brought up. She was fed only by enemata. On the 6th she had a little whey. Mr. Henry O. West ordered some bismuth and bicarbonate of soda in mixture. On the 7th at 9.30 P.M. there was a return of hæmorrhage in larger quantity. The morphine was repeated. Half a pint of saline solution was given per rectum every six hours. The temperature was normal. A nutrient enema (four ounces of milk, the yolk of one egg, and three drachms of glucose) was given every six hours. The rectum was washed out daily. No signs of blood were visible in the stools. The mouth was cleansed with antiseptics daily. The patient was not in the least thirsty, and had nothing by the mouth for three days. The tongue was cleaning. From this time convalescence advanced daily. Whey was found to cause some pain, and milk and water suited well in increasing quantities up to two ounces hourly by day and every two hours by night. Five grains of citrate of iron and ammonia in mixture were ordered on the 18th twice a day, and rectal feeding was stopped. Arrowroot and milk, beaten up eggs, and mashed banana were taken, then custard, milk jelly, and bread and milk. No pain was complained of. The patient was up and about early in August and left the hospital for the seaside on the 20th of that month, having gained weight and improved in colour.

There can be no doubt as to the nature of this case, and we may assume that there was an ulcer, or perhaps more than one, in the lesser curvature of the stomach which had existed for two months before any hæmorrhage occurred—

that is, before some small vessel, probably an arterial twig, was ruptured by the advance of the eroding ulceration. The recurrent bleedings are noteworthy. The first one occurred in spite of absolute rest and absence of all feeding by the mouth; not even a spoonful of water was given. The second one occurred after whey and milk and lime-water had been taken in small quantities, nutrition being maintained by enemata. As this was a more serious hæmorrhage, the question of surgical interference was discussed and arrangements were made for it in case of renewed bleeding. This happily proved unnecessary.

CLASSIFICATION.

Our knowledge in regard to gastric ulceration has been enlarged of late owing to the practice of modern surgery, and we are now able to classify these lesions under three conditions. We formerly recognised by the history and symptoms of gastric ulcers that they were acute and chronic; that some appeared to heal rapidly and gave no further trouble, while others proved rebellious to careful treatment. Inspections of the gastric mucosa on the operation table in some cases of severe recurrent hæmorrhage have revealed a lesion which had no resemblance to ulcer as commonly recognised in the post-mortem room, and conceived as existing beforehand. All that was apparent consisted in a series of small fissures, or chaps, from which blood oozed freely and continuously. Each of these being ligatured with fine thread ceased to bleed, and nothing further remained to be done; recovery followed. This oozing patch was regarded as an erosion, which, indeed, it appeared to be, hardly amounting to an ulcer. Cases of this kind have probably been regarded as instances of gastrostaxis, and we may assume that many of them cease to give trouble and heal kindly under appropriate treatment. We may fairly regard them as examples of a variety of ulceration, if we bear in mind the old surgical definition of an ulcer as a "solution of continuity." Some recent and careful observations by Dr. C. Bolton[1] of University College Hospital have shown that such erosions, although very difficult to find after death, may be detected by certain methods, and should certainly be regarded as superficial ulcers. It therefore becomes a question of degree. I confess that I am of his opinion in the matter. These lesions may be multiple, and it is certain that they are as apt to be serious sources of hæmorrhage as are the deeper ones. Mr. Butlin and I related a good example of this kind to the Clinical Society[2] in 1903, in which Mr. Butlin operated with advantage, and a rapid recovery followed.

TREATMENT.

The results of cases of gastric ulcer treated carefully in hospitals are, in the great majority, satisfactory, and have led some observers, Dr. W. P. Herringham[3] amongst them, to believe that in many of such patients there was probably no true ulceration present, but some much less serious condition. It may be that some of these patients were the subject of minor degrees of the superficial ulcerative erosion I have just described. Mr. C. Mansell Moullin and Dr. F. J. Smith have well described such cases. With regard to a fatal issue in all cases by hæmorrhage, I must add my experience to the effect that this is happily not a common occurrence. Whatever the lesion, or the degree of it, the treatment of the patient is the same, and it consists in absolute rest, recumbency with head low, and morphine given hypodermically. Nothing whatever is to be given by the mouth, not even iced-water or pieces of ice. Saline solution, in half-pint quantities, should be given by the bowel, and nutrient enemata consisting of from eight to ten ounces of peptonised milk, with yolk of egg and grape sugar, repeated three or four times each day for at least three days. The mouth should be cleansed with borax, thymol, and warm water several times a day.

We await the closing of any oozing vessel or arterial twig by clot, and this delicate process must not be disturbed by matters of any kind introduced into the stomach. These are apt to excite secretion of gastric juice which is unfriendly to a sore surface. Even nutrient enemata are apt to excite this secretion, as Dr. E. I. Spriggs[4] tells us, but the patient must be fed on something. After hæmorrhage, the next grave matter to bear in mind is the possibility of perforation of an ulcer, with alarming symptoms of pain and collapse, calling for immediate surgical action.

We may note that our patient suffered from some pain after taking small quantities of whey, and it may be that the excess of rennet in this may have acted as a peptic irritant. Milk and lime-water and cream are always safest for the first feeding by the mouth. An ice bag may be laid on the epigastrium during active bleeding, but should not be retained too long at a time.

I have said nothing so far as to medicines, save as regards morphine. We never use astringents now as was formerly the practice. Subnitrate of bismuth and calcined magnesia are the best to employ, a scruple of each, after a few days when the bleeding is stopped. The lower bowel should be washed out daily and the stools examined for melæna. Calcium lactate in 15-grain doses three times a day has been suggested, but I have not employed it, and adrenalin has been tried, but it was of no avail in one case of mine some years ago. I think that it is not a desirable agent in these cases, and I believe that in most cases we may dispense with any of these drugs if we carry out the physiological principles I have inculcated in every detail.

I should mention the desirability of performing gastro-enterostomy in cases where ulceration is found near the pyloric orifice on opening the stomach. The risk here is that pyloric obstruction may result from a scarred ulcer leading to dilatation and other difficulties. A subsequent operation for the relief of this may thus be avoided.

You are aware that many patients suffer from gastric ulcer without any hæmorrhage, or with very small bleedings. I am not concerned to speak about chronic ulcers to-day, and in regard to hæmorrhage from cancerous growth in the stomach I will only mention that we do not meet with this in persons under 40 years of age, and that there is seldom any serious loss of blood in such cases. Coffee-ground vomit is more common, and this may also be met with both in acute and chronic ulcers.

Apart from gastric ulceration, the most formidable cases of hæmatemesis that you are likely to meet with are those dependent on advanced cirrhosis of the liver. This is always a serious and often a terminal symptom in such subjects. The bleeding commonly occurs from rupture of varicose veins at the lower end of the œsophagus—œsophageal piles as they are sometimes called. The loss of blood is sometimes enormous, usually of very dark colour. Recurrence of it is almost certainly fatal. You will treat such cases just as you would any others. Happily, with the amendment now recognised in gross alcoholic habits, we do not meet with such examples so often as formerly. Melæna to a large extent occurs in these patients. The liver may be large, and is not always shrunken as might be expected when such an engorgement of the portal venous system is present.

Patients suffering from gastric hæmorrhage are always likely to do best in hospitals or nursing homes where they can secure skilled watching, and be saved from their own importunities and the dangerous meddling of relatives. The case I have related was tended with much skill and devotion by my house physician, Mr. West.

There are no specimens in our museum here to illustrate the superficial erosive ulcer. In the past these have been missed or overlooked at the necropsies for the reasons we have noted.

[1] Brit. Med. Jour., May 24th and August 27th, 1910. Post-mortem digestion rapidly effaces these very superficial erosions.
[2] Transactions of the Clinical Society, vol. xxxvii., 1903.
[3] St. Bartholomew's Hospital Reports, vol. xliv., 1909.
[4] Brit. Med. Jour., May 21st, 1910.

A CASE OF ACUTE PANCREATITIS; OPERATION; RECOVERY.

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THE subject of acute pancreatitis in all its varieties has received much attention of late years, and the seriousness of the affection has been abundantly shown. So far, the records of cases successfully treated by operation are comparatively few, although it is fair to assume that most, if not all, of the recoveries have been published, while many of the unsuccessful attempts at relief have been left unnoticed. It is satisfactory, therefore, to be able to add to the list of successes one more case where prompt surgical interference has been followed by complete recovery. My own personal experience of operations for the condition is not large and

the case now to be recorded is the only one in which recovery has followed. I have, however, seen, I believe, several cases in too serious a condition to justify any hope of improvement by operation, which have therefore been left untouched and which have succumbed. The good result in this case was due as much as anything to the prompt action of the medical man in charge in sending so serious a case at once for surgical relief.

On Feb. 21st, 1910, Dr. C. E. H. Warren of Selhurst sent me a message that a case of some acute abdominal affection was on the way to the hospital. She was seen at once on arrival, and recognised as being in a very serious condition. I could only be sure of one thing—i.e., that a grave abdominal lesion, accompanied by peritonitis, was present and called for immediate operation. The hospital notes are as follows.

The patient, a married woman, aged 40 years, was admitted into University College Hospital on Feb. 21st, 1910. Two days before (the 19th) she was suddenly seized with a severe pain of a griping character in the upper part of the abdomen above the umbilicus. She vomited and "trembled" with pain, but apparently no definite rigor occurred. The pain subsided, but had returned in paroxysms from time to time, causing further sickness. The bowels had not moved since Feb. 18th; the patient could not say whether flatus had been passed or not. Before admission two enemata were given without result.

Past history.—Six years ago, one month after the birth of her first child, she had a similar attack of pain and vomiting with constipation, and, again, six months ago, after the birth of her last child, there was another attack like the first which lasted 48 hours. All pregnancies had been normal; there had been no miscarriages. The patient's husband thought that after the first attack she was jaundiced, but there was no jaundice with the last attack.

State on admission.—The patient was well nourished and had not quite the peritonitic facies. The pulse was 124 and the temperature was 101·4° F. The abdomen was soft and not fuller than normal. The patient complained of pain in the epigastrium and the left hypochondrium. In the last situation and in the left lumbar region there was tenderness on palpation. There was no dulness in either flank, and no loss of liver dulness was noted. The kidneys were not to be felt. The rectum was empty and distinct tenderness was experienced on palpation with the fingers on its left wall at the level of the fundus uteri. An enema produced no result. The urine contained no sugar, blood, or albumin. There was practically no shock on admission.

First operation.—A review of the history and condition on admission did not appear to me to justify any positive diagnosis. It was plain, however, that peritonitis was present from some sudden cause, the nature of which was obscure. In view of this fact I opened the abdomen in the middle line below the umbilicus at 9 P.M. There was some clear, slightly blood-stained fluid in the general peritoneal cavity. The pelvis was first explored, and only a burst Graafian follicle was found. The sigmoid was not distended and contained hard fæces. The vermiform appendix was normal. The small intestine was everywhere markedly injected and a little dilated, but was not paralysed. It was traced from the cæcum to the duodenum, and several flakes of lymph were found upon it. The condition was puzzling until I drew down the transverse colon, when several patches of fat necrosis were seen in the great omentum close to the colon 4 or 5 mm. in diameter. A portion of the omentum so affected was tied off and removed for examination and showed the fat necrosis still more clearly when treated subsequently by Benda's method. The omentum was now torn through between the stomach and colon, and the small sac of the peritoneum opened. In it were found many more patches of fat necrosis, increasing in number as the pancreas was approached. This organ itself was felt to be hardened and swollen, especially at its head. I did not think anything further could be done then, and simply introduced an iodoform gauze tampon down to the pancreas and brought it out of the upper angle of the abdominal wound, the rest of which was stitched up in two layers.

On Feb. 22nd the patient had slept well and had been easy. The pulse was 112 and the temperature was 99·4°. The bowels were opened twice during the day, the result being constipated. Saline injections were returned. On the 23rd fæces were still passed of normal appearance. The conjunctivæ were slightly yellow; there was no glycosuria; the tongue was very dry. The patient was fairly well, but was very weak. On the 24th she vomited after food. On the 25th some of the plug was removed. The patient was slightly jaundiced. On the 26th the remainder of the plug was removed; she was still jaundiced. On the 27th a clay-coloured stool was passed after calomel. The temperature was 100·2°. On March 1st stitches were removed. The temperature was rising at night to 100·2°. On the 3rd, at 6 45 P.M., the patient was seized with abdominal pain from the nipples down to the umbilicus. There was at the same time tenderness over the whole abdomen, most marked over the tip of the right ninth costal cartilage. The pulse rose to 124. The temperature fell to 98° at 10 A.M. Morphia was given, but the pain continued all day. She began to vomit at 4 P.M. and did so three times, bringing up 2 ounces. On the 4th she vomited several times, bringing up 12 ounces in all, but the general condition seemed better. In the morning the temperature was 100·4° and in the evening 101·4°. There was no increase of distension. The pain continued the same as on the previous day, but the point of greatest tenderness was now over the tenth rib on the *left* side and no longer on the right side over the gall-bladder. She now began to take pancreatin tabloids on account of fat in the stools. On the 5th there were more pain and tenderness, and she was weaker. The temperature at 10 A.M. was 101°.

It now appeared to me that there must be some exacerbation of the inflammation in the pancreas, and I thought of opening and draining the gall-bladder. But when the pain was overcome by a general anæsthetic a distinct fulness could be felt in the neighbourhood of the spleen where the tenderness had been most marked before. I therefore proceeded to try to open the omental sac behind from the left flank.

Second operation.—On March 5th an incision was made starting two inches to the left of the navel and running obliquely upwards and backwards. Extensive fat necrosis was found in the extra-peritoneal fat, and portions came away on the gloves and were reserved for further examination. The peritoneal sac was opened behind the splenic flexure of the colon below the spleen, and at once about 6 to 10 ounces of blood-stained fluid streaked with pus escaped under considerable pressure. This was followed by a pretty free escape of venous blood, which ceased on the introduction of a large long rubber drain-tube as far as the pancreas. The mass felt before operation was now proved to be the enlarged pancreas head. The spleen did not appear to be increased in size. A somewhat smaller rubber tube was introduced beside the first into the tissues of the loin outside the peritoneum, and the wound was partially stitched up from below. Sterile gauze dressings were applied over all.

On the next and the following days the condition was fairly good, the discharge from the wound being moderate. From this on there is nothing special to record until April 10th, except an irregular temperature between 100° and 101·4°, consequent, I believe, on some difficulty in retaining the drain-tube in the omental sac. The note on April 10th states that the patient had improved steadily; she was stronger and looked much better. The temperature, however, was never quite normal, and on the previous night had been 103·6°. The discharge from the tube in the omental sac had continued abundant, but fluctuated in amount. At 2 P.M. on this day the patient was seized with pain over the fundus of the gall-bladder. Tenderness was also most marked over this spot, but radiated over the whole abdomen, especially in the left flank. The pain was very severe and was only relieved by a full dose of morphia. There was no rigor. The temperature at the onset was 102°, but fell at 10 P.M. to 100·6°. The patient vomited seven times to the extent of 24 ounces during the night, but felt easier in the morning. The pain remained over a palpable mass to the left of, and below, the umbilicus (? undrained area). There was no icterus. From this time there was steady improvement, the drain-tube was progressively shortened, and was left out finally on May 17th, a dry gauze dressing being applied.

On May 20th a number of carious teeth were removed and some more on the 27th. The patient now appeared to be in excellent condition and was free from all pain. She was eating well and had much increased in weight. She was

therefore allowed to go home on May 31st. The temperature had been normal for 12 days and the wounds were soundly closed.

Remarks.—The difficulty of diagnosis in this case was very great. In some ways the attacks resembled recurring appendicitis. But the tenderness and resistance were on the left side and were more marked above than below; indeed, there were little tenderness and no resistance over the cæcum. That some grave intra-abdominal inflammation was present, however, there could be but little doubt, and what this was could only be cleared up by opening the peritoneal cavity. In this obscurity I felt it best to incise in the middle line and even then the condition was not clear until the fat necrosis revealed the true state of things. The white patches in the great and gastro-colic omentum, standing out in contrast to the fat lobules and slightly stained serous membrane, were unmistakeable. These increased in number when the bursa omentalis was opened. There was only a little blood-stained serum in the latter, but the pancreas was felt to be swollen and tender. Drainage of the omental sac appeared to me to be indicated as much on account of possible increase of discharge from breaking down of the pancreas as for the release of any present at the moment. As a matter of fact, this first drain opening yielded comparatively little and soon closed. This seemed to point to the conclusion that the condition was still mainly retroperitoneal. This was proved to be the case by the subsequent course of the disease and the finding at the second operation of extensive fat necrosis in the retroperitoneal tissues, so that these required a separate drain-tube for themselves. But it was not until the lesser sac of the omentum was opened behind the colon that a large collection of inflammatory fluid was found. The exacerbations which occurred even after this was drained off appeared to me to be due partly to the difficulty of retaining the rubber tube in the omental sac, the opening into which was only of about the size of my gloved finger. But it may easily be that they were due to progressive invasion of the pancreas by the inflammatory process even after efficient drainage had been secured. Before the swelling in the left hypochondrium was discovered I was tempted more than once to open and drain the gall-bladder. But I am glad now that this was not done, as the opening of the omental sac behind the colon in the left flank could alone have relieved the patient. It may be suggested that to have drained the gall-bladder would have possibly reduced the infection of the pancreas. But this is only a supposition. The old maxim, *ubi pus ibi evacua*, held good here, and I was glad of its guidance. The result at all events left little to be desired.

As regards diet in this case directions were given to have all the light fluid food sterilised in order to minimise the chances of further infection of the pancreas from the intestine.

An attempt was made to obtain a regular analysis of the fæces from the pathological department, but there were difficulties in this direction which could not be overcome. What was undertaken led to no definite results. The bacteria which were cultivated from the discharge obtained from the pancreatic abscess were streptococci. The peritoneal effusion met with at the first operation proved to be sterile on cultivation.

It is gratifying to be able to add one more successful case to the relatively few that have been recorded of recovery from this fell disease. Prompt and prolonged drainage appeared to be all that was required in this case for recovery, and the great increase of flesh and general well-being justifies the hope that this recovery will be permanent. The removal of decayed teeth, with the relief of the pyorrhœa alveolaris, and the use of a complete denture will also reduce the chances of subsequent infection considerably.

Sequel of the above case.—The subsequent history of this case adds, I venture to think, considerably to its interest. The patient, of whom I heard from time to time since her discharge from hospital, remained well up to the beginning of this month (October, 1910). On the morning of Oct. 14th last I was told that she had been readmitted with serious abdominal symptoms, which had set in on the 13th, and naturally thought of a recurrence of the pancreatitis. On seeing her she at once struck me as being very ill; her tongue and lips were dry; she was in great pain and looked pinched. The temperature was subnormal (98·2°), and the pulse 124. The pain was now in the lower part of the abdomen and the tenderness most marked in the left hypogastric region. The area in which the former pancreatic swelling had been situated was normal and both flanks were resonant. The question of strangulation by band following the former operation was considered and was thought probable. But remembering that pancreatitis may recur and that the symptoms of the previous illness were very like those now present, I thought the best course was to open the abdomen through the old scar in the left flank and to explore the condition from there. This was done on Oct. 14th, at 9 P.M., when empty coils were traced to the cæcum and very much distended gut to a congeries of coils held together by adhesions lying in the pelvis. The latter were drawn up with some difficulty after separating numerous adhesions and proved to be a volvulus twisted over some of the adhesions. When all the latter had been freed and free inflammatory fluid had been mopped out the contents of the distended gut were squeezed through the liberated volvulus into the empty gut and onwards into the colon and the wound was closed. But before this was done I took the opportunity of examining the pancreas with the fingers and found nothing abnormal to the touch except that the organ appeared to be smaller than usual. There was no trace this time of any of the fat necrosis so obvious in the former attack, and the urine and fæces which were passed later (17th) were normal.

The patient made a good recovery after some days of great pain and rise of temperature, and is now (Oct. 25th) looking and feeling very well, the wound being healed by first intention. The original attack in this case was not due to one of those fulminating processes in which wide sloughing of the pancreas occurs, from which, I believe, no recoveries under any treatment can be expected. But the suddenness and severity of its onset, with fever, peritonitis, and fat necrosis, justify its being placed among the acute cases. The opportunity of examining the abdomen *in vivo* some eight months after an attack of pancreatitis must be a rare one, and the absence of any palpable evidence of damage from the earlier inflammation of the pancreas encourages the hope that prompt drainage from behind may serve to arrest the disease in other cases.

Harley-street, W.

PHAGOCYTOSIS OF ERYTHROCYTES BY ENDOTHELIAL CELLS:

SOME POINTS IN CONNEXION WITH IT, AND A METHOD FOR ITS DEMONSTRATION.

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OF previous laboratory experiments on the phagocytosis of red blood corpuscles, the greater number have been performed on the blood of animals artificially immunised to foreign erythrocytes. The iso-agglutinins (for erythrocytes) of human serum have been the subject of much investigation by Hektoen[1] and others. Such sera may be divided, as regards their origin, into two classes: (*a*) "natural" agglutinating sera, where the serum from a normal person agglutinates the red corpuscles of other normal individuals; and (*b*) "immune" agglutinating sera, where the sera from cases of disease agglutinate the erythrocytes of other diseased or normal human beings.

The power of such sera to bring about phagocytosis of the red corpuscles which they agglutinate has not been investigated to the same extent. Recently Dudgeon[2] has investigated the hæm-agglutinins, hæm-opsonins, and hæmolysins present in human blood sera. In the experiments to demonstrate phagocytosis he employed washed human leucocytes from normal and "immune" bloods. Out of a large number of observations he noted few instances in which phagocytosis of red corpuscles was present to a marked extent. At the conclusion of his second communication he states:—

> In the concluding remarks in the preliminary paper on hæm-opsonins it was stated that "the experiments referred to in this communication entirely agree with the observations of Barratt and Keith, conducted

[1] Hektoen: Journal of Infectious Diseases, vol. iv., p. 297.
[2] Dudgeon: Proceedings of the Royal Society, Series B, vol. lxxx., 1908; vol. lxxxi., 1909; vol. lxxxii., 1909.

with the blood sera and cells from the lower animals. There was nothing to show that the agglutination, opsonic, or hæmolysing properties of normal or immune sera on red blood corpuscles have any direct relation to one another." From the investigations which have been made for this report, some of which have been referred to, it has been noted that a serum may hæmolyse, agglutinate, and incite phagocytosis of certain red cells, but although it may be capable of agglutinating and hæmolysing certain red cells, yet the degree of phagocytosis which is present may be negligible, or phagocytosis may be present without the other phenomena; on the other hand, a serum which has a high agglutinative value is more likely to give a somewhat similar incitor reaction than otherwise, although not necessarily.

Emery,[3] summing up the question of the identity or otherwise of thermostable opsonin and amboceptor, states:—

> There is an additional possibility that the part of a thermostable opsonin may be enacted by agglutinins. I believe that in the case of the hæm-opsonins of normal human serum the substance is a thermostable agglutinin with a second thermolabile zymotoxic group. Natural hæm-opsonic sera are, as far as I have seen, always powerful agglutinators of the red corpuscles which they opsonise, and when they are heated to 60° C. the opsonic power is destroyed, but the agglutinative faculty is unaltered.

In many diseases there are marked post-mortem evidences of red corpuscle destruction and phagocytosis in certain tissues, though such appearances are of extremely rare occurrence in the circulating blood during life. In such tissues the cells concerned in the phagocytosis are almost entirely "macrophages" or endothelial cells. The red corpuscles in such tissues may often be seen to be agglutinated into masses. The object of the present investigation was to determine whether these cells could be shown, *in vitro*, to evince a special aptitude for the phagocytosis of erythrocytes, and in what manner phagocytosis was related to the presence of hæm-agglutinins. Sleeswijk[4] and others have, in isolated instances, employed endothelial cells obtained from artificially induced effusions in animals, in connexion with experiments on hæmo-phagocytosis.

Technique.

The endothelial cells employed throughout this investigation were obtained from the ascitic fluid from cases of hepatic cirrhosis with ascites. Such fluids usually contain a high proportion of endothelial cells and may with care be obtained practically free from erythrocytes, a point of importance. The fluid was collected direct from the syphoning tube into sterile normal saline containing 0·85 per cent. of sodium citrate.

In the preparation of the cells a considerable bulk of fluid was centrifugalised in a water-driven centrifuge. The sediments from the various tubes were collected and re-centrifugalised. The deposited cells were then washed in two or three changes of normal saline solution, the mass of cells being gently broken up with a platinum wire between each washing. Finally, an emulsion of convenient density was made up in saline solution. In none of the ascitic fluids used did the centrifugalised cells show any appreciable phagocytosis of the erythrocytes present in the fluid, though such phagocytosis is occasionally very obvious. The endothelial cells so washed often shrink considerably in size and appear much smaller than when examined unwashed. The shrinking may render the cells difficult to distinguish from small lymphocytes in film preparations. The cells were used as soon as possible after, usually within eight hours of, their removal from the patient. On two occasions they were not used until 24 hours after withdrawal. In one of these cases their activity appeared unimpaired, in the other their phagocytic powers were somewhat reduced.

Attempts were made to obtain suitable endothelial cells from the guinea-pig either by scraping the cut surface of the spleen immediately after death or by the injection of sterile physiological saline solution into the peritoneal cavity. In the former case it was found very difficult to obtain an even emulsion of cells, and in the latter the number and nature of the cells present in the artificial effusion varied greatly.

The red cells employed consisted of 10 per cent. suspensions in normal saline solution of the washed red cells from a normal man and various cases of disease. The blood sera were obtained from normal persons and from a variety of hospital patients.

The phagocytic experiments were conducted by placing serum, erythrocytes, and endothelial cells in small lengths of glass tubing sealed at one end. The open end was covered with sealing-wax, and the tubes were incubated in the vertical position. They were placed in an air incubator at 37° C., and in nearly every case were left in the incubator for 30 minutes. By this method, the erythrocytes and the endothelial cells fall to the bottom of the tube and can be obtained, for purposes of making a film, with a minimum of fluid. Care was employed, in spreading the films, to avoid breaking up any agglutinated masses of red cells which might be present.

The agglutinative action of the sera upon the red corpuscles was investigated by incubating equal volumes of serum and washed red cells in a capillary pipette at 37° C. for 30 minutes. The microscope was employed in deciding whether agglutination was present or not. After this incubation the presence of hæmolysis was looked for. Apart from this no detailed investigation of the hæmolytic powers of the sera was made. In only one or two instances out of all the sera examined was a hæmolytic action noted under the above conditions (i.e., equal parts of serum and 10 per cent. suspension of erythrocytes at 37° C. for 30 minutes).

On the Power of Endothelial Cells to Ingest Erythrocytes.

The endothelial cells used throughout these experiments showed most marked powers of phagocytosis. They were able to ingest a large number of red corpuscles per cell—a fact partly due, no doubt, to their size. In the presence of a suitable serum the cells rapidly became packed with erythrocytes to such an extent as to render enumeration of the included cells impossible. To borrow a phrase from bacterial phagocytosis, almost every cell on a film was a "glutton." The loaded cells presented much the appearance of the phagocytic cells seen in the sinuses of a spleen where red cell destruction is going on. When the process of phagocytosis was watched on a warm stage the endothelial cells were seen to fill themselves with red cells within a few minutes to such a degree that the nucleus of the phagocyte appeared to be forced out of the cell through lack of room, and was seen projecting as a bud from the cell outline.

The process quickly reaches a maximum, and little difference in the degree of phagocytosis was noted when mixtures of cells, serum, and erythrocytes were incubated for half an hour or for two or three hours. The longest period for which such a mixture was incubated was ten hours. In this experiment the engulfed red cells were seen to be somewhat shrunken and to stain darkly, but no granules of pigment were recognisable.

This enormous phagocytic power of endothelial cells towards erythrocytes contrasts strongly with the behaviour of the large mononuclear leucocytes of the blood in Keith's[5] experiments. He states that occasionally these cells were seen to have taken up one or two red cells, but the extent of the phagocytosis shown by them was insignificant.

On the Relationship between the Agglutinating Power of a Serum for Erythrocytes and its Ability to Cause Phagocytosis of those Erythrocytes.

From the examination of a considerable number of sera it may be stated briefly that where any given serum caused agglutination of any given sample of washed red corpuscles, when this unheated serum was mixed with these corpuscles in the presence of a suspension of endothelial cells and incubated, the red cells were invariably ingested by the phagocytes. Conversely, in no case where a serum failed to agglutinate certain red corpuscles was it found capable of causing them to undergo phagocytosis. This held good whether the serum employed was an example of a "natural" or an "immune" agglutinating serum, and no difference in the hæm-opsonic powers of these two classes of sera was found, provided that the agglutinating powers of the two were equal. When the phagocytic experiments were negative they were conclusively so. The endothelial cells, in the presence of serum and erythrocytes (where such serum had no agglutinative action on the erythrocytes) showed practically no tendency to engulf the erythrocytes, and it was no uncommon thing to examine several hundred endothelial cells on a film without finding a single ingested blood corpuscle. Two examples may be cited:—

I. Of the sera from three cases of pernicious anæmia, A, B, C, serum A caused marked agglutination and great phagocytosis of red corpuscles from a normal individual. Sera B and C caused no agglutination of the normal red cells and *no* phagocytosis was seen on films.

[3] Emery: Immunity and Specific Therapy, p. 285.
[4] Sleeswijk: Ueber den Bau der Opsonine, Centralblatt für Bakteriologie, I. Orig. xlvi., 1908, p. 513.
[5] Keith: Proceedings of the Royal Society, Series B, 1906, vol. lxxvii., p. 537.

II. Sera D, E, F, from three normal males. Of these D was an example of a "natural" agglutinating serum and agglutinated the red cells of X (a normal man) strongly. It also caused great phagocytosis of X's erythrocytes. Sera E and F caused no agglutination and *no* phagocytosis of X's erythrocytes.

Throughout the experiments the extent of the phagocytosis brought about by a given serum was found to vary directly with the degree of agglutination which that serum produced on the red cells employed. Where agglutination was marked almost every endothelial cell was loaded with erythrocytes, so as to render its contents uncountable with accuracy; where agglutination was only slight the phagocytosis was correspondingly less.

In the majority of sera examined, and especially in those from normal individuals, the opsonic power of the sera was destroyed more or less completely by heating to 58° C. for half an hour. In such sera the agglutinating power may be little if at all impaired by this heating. The opsonic power can be restored by re-activating with fresh normal serum. The opsonin in "natural" agglutinating sera is then, as a rule, thermolabile, and its presence or ability to exert its action is closely related to the presence of agglutinins. Not all sera from apparently normal persons, however, lose their opsonic power on heating; one such serum retained its opsonin for erythrocytes after heating to 60° C. for an hour, though both its agglutinating and opsonic powers were considerably reduced. Such a "natural" hæm-opsonic serum contains a large amount of thermostable opsonin.

The effect of the hæm-opsonin present in a serum upon the endothelial cells was strikingly illustrated in films from the phagocytic experiments. In the presence of opsonin the agglutinated masses of red corpuscles are covered with endothelial cells, exhibiting a high degree of phagocytosis, and comparatively few endothelial cells are found lying loose on the film. There is no evidence of any agglutination of the endothelial cells, which are usually spread evenly over the clump of erythrocytes which they are ingesting. If, however, a serum containing thermolabile opsonin, and from which the opsonin has been removed by heating, be employed no such distribution of endothelial cells over the agglutinated erythrocytes is seen. The endothelial cells are scattered over the field and show no tendency to collect in the neighbourhood of the agglutinated red corpuscles. And this although the agglutinating power of the serum has been little, if at all, reduced by the amount of heating necessary to destroy the opsonin.

By employing the warm stage this attraction of the endothelial cells towards the agglutinated erythrocytes is very obvious and is seen to occur with considerable rapidity. On films where the agglutination of red cells is only slight and the clumps consist of but very few erythrocytes, only one or two phagocytic endothelial cells may be attached to each clump.

The following experiments serve to show how closely the degree of phagocytosis produced in a phagocytic mixture (erythrocytes, endothelial cells, and serum) is dependent upon the extent of red cell agglutination.

A. The serum used was from a case of bacilluria (B. coli) and showed a powerful agglutinative effect on the normal red cells. The hæm-opsonin this serum contained was thermolabile. In each case 1 volume of the serum or diluted serum was mixed with 1 volume of a 10 per cent. suspension of normal red cells and 1 volume of endothelial cells.

No.	—	Agglutination.	Phagocytosis.
I.	Unheated undiluted serum.	Very great.	Very great. Uncountable.
II.	Undiluted serum heated to 60° C. for 15 minutes.	Great.	50 cells contained 4 red corpuscles.
III.	Unheated serum diluted 1 in 2.	Great.	Uncountable.
IV.	Unheated serum diluted 1 in 10.	Slight.	50 cells contained 58 red corpuscles.
V.	Unheated serum diluted 1 in 20.	Very faint.	50 cells contained 9 red corpuscles.

The agglutination in IV. and V. was only visible microscopically. The serum being diluted before its admixture with the erythrocytes and endothelial cells, the actual strength of serum in II., III., IV., and V. was 1–3, 1–6, 1–30, and 1–60 respectively.

B. Serum from a healthy and presumably normal individual intensely agglutinated and slightly hæmolysed normal red cells (from another healthy man). The opsonin in this serum was largely thermostable. In each case the serum was mixed with equal volumes of suspension of normal erythrocytes and endothelial cells.

No.	—	Agglutination.	Phagocytosis.
I.	Unheated serum.	Very great.	Very great. Uncountable.
II.	Serum heated to 60° C. for 15 minutes.	Very great (less than I.)	Very great (less than I.)
III.	Serum heated to 60° C. for 60 minutes.	Slight.	50 cells contained 84 red corpuscles.

On adding normal serum (from the same source as the erythrocytes) to the sera in II. and III. and repeating the experiment phagocytosis was moderately increased in each case.

C. The serum of a rabbit immunised to human erythrocytes powerfully hæmolysed human red cells *in vitro*. It was inactivated by heat and considerably diluted to various strengths. Normal red corpuscles were agglutinated in varying degree by the various serum dilutions. They were then washed and mixed with serum (from the same source as the red corpuscles) and endothelial cells, equal volumes of the three constituents being taken. The serum employed (inactivated) caused agglutination, but no phagocytosis of human red cells in a dilution of 1 in 100.

No.	—	Agglutination.	Phagocytosis.
1	Erythrocytes agglutinated by inactivated serum 1 in 50, 1 volume. Normal serum, 1 volume. Endothelial cells, 1 volume.	Very great.	Uncountable.
2	Erythrocytes agglutinated by inactivated serum 1 in 100, &c.	Slight.	50 cells contain 51 erythrocytes.
3	Corpuscles agglutinated by inactivated serum 1 in 200, &c.	Very slight.	Slight phagocytosis where red cells were clumped.

In a similar manner an agglutinating serum with thermolabile hæm-opsonin was de-opsonised by heat and allowed to agglutinate normal red corpuscles, the serum being diluted so as to produce varying degrees of agglutination. The agglutinated red cells were washed and subsequently incubated with normal serum and endothelial cells. The phagocytosis varied with the degree of agglutination. Other experiments on the same lines as the above gave similar results.

Attempts were made to demonstrate the presence of phagocytosis by employing red cells and serum from the same case of disease. The patients from whom the blood was obtained were examples of those conditions in which marked destruction of red corpuscles is found after death—e.g., severe cases of typhoid fever and of pernicious anæmia. In no case, however, was any phagocytic effect obtained. In some cases where the endothelial cell emulsion included a few red cells, agglutination and phagocytosis were apparent, but, by substituting an emulsion free from blood, neither phenomenon was seen. For this reason a preparation of phagocytes free from red blood corpuscles is of great value in such investigations. In none of the cases in which the serum and red cells were examined for auto-phagocytosis was the phenomenon of auto-agglutination present, though, of course, many of the sera agglutinated normal red cells and the "immune" red cells were agglutinated by normal serum.

It seemed possible that phagocytosis of red blood corpuscles, by the action of their own serum, might be demonstrated if the washed red cells were exposed to the action of various toxic substances and then washed again and incubated with their own serum and endothelial cells. For this purpose normal red cells were incubated with diphtheria toxin and

others exposed to the action of dilute oxalic acid or hypotonic saline solution of such strengths as to produce faint hæmolysis; through suspensions of others coal-gas was passed. The subsequent phagocytic experiments were in all cases negative.

The effect of artificially agglutinating normal erythrocytes was also tried. N/100 HCl was the agglutinating agent employed. Washed normal red cells in 10 per cent. emulsion were incubated with N/100 HCl for 30 minutes. Subsequently the supernatant fluid was pipetted off and the agglutinated red cells were washed in several changes of normal saline solution, the tubes being agitated sufficiently to ensure thorough washing without breaking up the clumps of cells too much. The agglutinated cells were incubated with their own serum and endothelial cells. The ultimate agglutination was moderate in amount, and there was a considerable degree of phagocytosis, most marked in the region of the clumps of corpuscles.

This was repeated on several occasions with a similar result, though the amount of the phagocytosis was less than that obtained with agglutinating blood sera which produced a like amount of agglutination. Control experiments, using erythrocytes untreated with HCl, were, of course, negative, as also were experiments in which the serum was replaced by saline solution or by suitably diluted HCl.

In other experiments the red cells after agglutination with N/100 HCl were placed in contact with N/100 NaOH for 30 minutes, then washed and incubated with their own serum and endothelial cells. The action of the alkali was to increase the agglutination without making any appreciable difference to the degree of phagocytosis.

If dilute HCl be added to a mixture of serum, red corpuscles, and endothelial cells, the serum and corpuscles being from the same normal individual, agglutination and phagocytosis, both slight in amount, are produced. For example, normal red cells and normal serum from the same source, endothelial cells, and N/100 HCl (one volume of each) were incubated. The resulting film showed slight agglutination, and 50 cells contained 17 erythrocytes.

Conclusions.

1. That preparations of endothelial cells are especially suitable for observations on hæmo-phagocytosis.
2. Human blood sera, whether from "natural" or "immune" sources, which cause agglutination of other human red blood corpuscles, can be shown to also bring about phagocytosis of these erythrocytes by endothelial cells.
3. That the amount of "hæm-opsonin" in such sera is closely related to the amount of "hæm-agglutinin" which they contain.

I have to thank Dr. P. N. Panton for supplying me with material, and both him and Mr. L. S. Dudgeon for their advice on certain points.

SOME NOTES ON "DELAYED CHLOROFORM POISONING."

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OF the various post-mortem findings which are now regarded as characteristic of death from "delayed chloroform poisoning" the fatty liver is at once the most constant and most striking sign. The liver is large, of a bright yellow colour, and shows profound fatty changes in its cells. The extent of these changes has suggested to some writers that a morbid state of the organ must have been present before the administration of the anæsthetic. It is, however, unlikely that any grave abnormal condition of the liver could exist without yielding some clinical sign of its presence previous to the administration of the anæsthetic. Moreover, the changes in the organ, however marked, are but the total of the changes in its constituent cells, and such changes may well develop within the three or four days which precede death.

A case which happened in my practice recently proves that a fatal result from "delayed chloroform poisoning" is possible in a patient whose liver at the time of operation presented nothing abnormal to the hand or eye.

CASE 1.—The patient was a woman, aged 47 years, who had shown signs of pyloric obstruction for 17 years. She was in a weak and emaciated condition. The urine was not examined for diacetic acid or acetone. The operation disclosed a dilated stomach with pyloric stenosis due to healed ulcer and a posterior gastro-enterostomy was done. The anæsthetic was chloroform given on lint, and the administration lasted in all for 45 minutes. The liver was seen and handled at the time; it was absolutely healthy in size and appearance. For 36 hours the course of the case was normal, but at the end of this time vomiting began and continued without intermission till death. The later vomits were "coffee-ground." The pulse-rate gradually increased, delirium and restlessness developed, and there were ceaseless efforts to get out of bed until coma set in. The breath smelt of acetone, but unfortunately no specimen of urine was tested. There was no rise of temperature, and the abdomen remained flat and supple throughout. Death followed exactly four days after the operation.

At the post-mortem examination the abdominal wound and operation area were perfectly healthy. The liver was slightly enlarged; it was of a bright yellow colour, and on section showed an extreme degree of fatty degeneration. The organ was loaded with fat and was greasy to the touch. There was also definite fatty degeneration of both kidneys. These were the only signs found at the examination. I believe that this death was due to "delayed chloroform poisoning."

The opportunity of handling and inspecting a liver four days before death from "delayed chloroform poisoning" is almost unique, and the above case is of much interest, proving, as it does, that gross fatty changes may happen to a liver which had presented an absolutely normal appearance four days before death. This case may throw some light on the cause of death in some cases of gastro-enterostomy in which the patients die apparently from "exhaustion" within from three to four days of the operation. Many of the patients on whom gastro-enterostomy is done are in a state of starvation, and some have fairly advanced malignant disease. Both these conditions are well known as predisposing causes of acidosis, and it is at least likely that in some of these cases the administration of chloroform is sufficient to hasten the catastrophe.

The suggestion that "delayed chloroform poisoning" is an acid intoxication was first made by Brackett, Stone, and Low, and since the appearance of their important paper this view has received support from many writers. Of the various manifestations, that condition known as "recurrent" or "cyclic" vomiting has been most commonly selected as offering the closest analogy to the phenomena of post-anæsthetic acidosis. With some writers the symptoms occasionally seen after the administration of a general anæsthetic have been regarded as those of "recurrent vomiting" which has been precipitated by the anæsthetic. The analogy, close as it is, is yet far from complete.

Grave as the symptoms of "recurrent vomiting" may be, recovery is the rule and is often astonishingly rapid and complete, whereas a patient exhibiting the same degree of symptoms due to "delayed chloroform poisoning" will almost assuredly die. Death in "recurrent vomiting" is uncommon, and when it does occur happens only as the end of a series of attacks which have steadily increased in frequency and severity. Death in "delayed chloroform poisoning" is the rule and follows rapidly on a single fulminant attack. The post-mortem findings are different in the two conditions. In the few recorded instances of post-mortem examination in children dead from "recurrent vomiting" the appearances are very variable and the fatty liver which is so constant a feature of "delayed chloroform poisoning" is not always found. Much as "recurrent vomiting" and "delayed chloroform poisoning" resemble each other, likely as it is that they own a common pathology, it is evident that there is some radical difference between them.

It may be suspected that of the cases reported as due to "delayed chloroform poisoning" some, and these mostly the instances of recovery, are simply cases of recurrent vomiting precipitated by the operation or anæsthetic. In susceptible children attacks of "recurrent vomiting" are not infrequently excited by emotional causes. I have seen more than once a severe and typical attack ensue within a few hours of the reception of a rickety child into a hospital, and the case which I report below appears to be a clear instance of an attack of "recurrent vomiting" induced as the result of an operation.

CASE 2.—A male child, aged 5½ years, was admitted to the

Manchester Hospital for Sick Children suffering from a right inguinal hernia. The urine examined before operation showed no evidence of diacetic acid or acetone. A "radical cure" of the hernia was done under ether. The drug was given by an Allis inhaler after a preliminary induction of anæsthesia by 3 cubic centimetres of ethyl chloride. The total duration of the anæsthesia was 20 minutes, and 2 ounces of ether were used. On the patient's return to the ward he vomited once and seemed to recover completely from the effect of the ether. Nothing of note occurred until 36 hours after the operation, when the boy was noticed to be very stupid and drowsy. It is noteworthy that there was neither screaming nor restlessness. The temperature rose to 100° F. and the pulse was 120. Vomiting began during the night and continued for 30 hours, one of the later vomits showing some altered blood. The urine contained acetone, and the breath had the characteristic odour of the drug. The coma continued from the Friday night till early on the Sunday morning, when, with the cessation of the vomiting, the boy began rapidly to improve. By the Monday evening he was absolutely well. Acetone continued to be found in the urine for ten days in all.

There can, I think, be no doubt that this case was a severe attack of "recurrent vomiting," precipitated by the anæsthetic or by operation, and was not a case of post-anæsthetic poisoning. Owing to his alarming condition the boy's parents were summoned to the hospital, but when the mother saw him she said at once, with an air of obvious relief, "Oh! he will be all right soon. I have seen him like this often." Further inquiry elicited the fact that the boy was the subject of "recurrent vomiting," and he has, in fact, had some further attacks since leaving the hospital.

A review of the literature of "delayed anæsthetic poisoning" will show at once that the vast majority of the cases have occurred after the administration of chloroform, and that but few have been noted after the use of ether. It appears probable from both clinical and experimental work that any general anæsthetic induces a state of acidosis, and the relative immunity from untoward results shown by the ether cases is probably due to the fact that the danger lies more in embarrassed excretion than in increased production of the acid bodies, and that ether hampers the kidneys less in their work than does chloroform.

The risks attendant on the use of chloroform in operations for acute septic conditions of the peritoneum have been noted by several writers. It must have happened in the practice of every surgeon who has had much experience of abdominal work that a case of septic peritonitis, whether general or local, which gave rise after operation to no great anxiety, has quickly gone to the bad and the patient has died within two or three days of the intervention. This disaster may occur in the case of small and well-localised appendicular collections of pus. The abscess is easily reached, it may not be necessary to open the general peritoneal cavity, the friends are comforted by the assurance of a hopeful prognosis, and the patient is dead within three days. The first sign of trouble is vomiting, beginning without obvious cause, some 36 hours after the operation. The pulse-rate is a little quickened. The vomiting continues; treatment is without effect, yet the whole time the abdomen is flat, supple, and moves well. The further spread of any peritoneal inflammation can be excluded. Within a few hours of the onset of vomiting the patient's mental condition becomes clouded; there is some delirium, with restlessness; coma begins and deepens until complete. Meanwhile the pulse is becoming gradually weaker and more rapid. The breath smells of acetone and the urine gives the reaction for diacetic acid and acetone. The later vomits may be "coffee-ground." There is sometimes a slight icteric tinge. The breathing towards the end may resemble that of diabetic coma, to which, indeed, the general resemblance of the case is great. There may be a marked rise of temperature towards the close. The end comes in from 36 to 48 hours from the onset of vomiting, and there has never been throughout the case any local sign which would suggest an acute abdominal infection. The explanation of "appendicular toxæmia" is usually tacitly accepted, but if a post-mortem examination be made there is an entire absence of those signs which are commonly regarded as indicating a death from septic intoxication. The liver is large, and obviously very fatty; the kidneys are slightly swollen, pale in colour, and show the changes of cloudy or of fatty degeneration; the heart muscle is pale and of reduced consistence. On microscopic examination fatty changes are always to be demonstrated in the liver, usually in the kidneys, and often in the heart.

The cause of death is acid intoxication following the use of chloroform in an acute septic condition. I have during the past two years watched three such cases from the initial vomit to the post-mortem examination—one in my own practice and two in the practice of other surgeons. It is probable that in some cases in which patients die from acute septic conditions the action of the chloroform has added the last straw to the burden of a patient already fighting for his life against septic infection. There can be no doubt that many of the milder cases recover and so escape notice. Why here and there a case is picked out is, as with other instances of "delayed chloroform poisoning," the chief mystery of the condition.

Cases such as the above form a very strong indictment against the indiscriminate use of chloroform. Since my last report[1] of cases of "delayed chloroform poisoning" I have used ether in almost every case of operation occurring in my ward at the Pendlebury Hospital. The ether is given by the "open" method from an Allis inhaler after a preliminary induction of anæsthesia by ethyl chloride. I have used this method in over 800 cases and have always found it most satisfactory. The safety and rapidity of the method are of the greatest help where a large number of cases have to be crowded into the morning's work. The children whilst on the table are of a good colour and have never in a single instance given cause for a moment's anxiety. On their return to the ward the "sisters" report that these children vomit less than do the chloroformed patients, and that, if they do vomit at all, they do so within the first hour, and afterwards return very quickly to a fully conscious condition. No untoward after-effect has ever been noted. Lastly, it will be found that with increasing experience the supposed limitations of ether as an anæsthetic will recede almost to vanishing point.

Manchester.

A CASE OF POISONING BY ACONITE.

BY W. EDGECOMBE, M.D. LOND., M.R.C.P. LOND., F.R.C.S. ENG.

ON Oct. 15th, at 10 P.M., I was called to see a man, aged 60 years, who was said to have accidentally taken poison. On arrival at his hotel I found Dr. M. B. Ray and Dr. G. L. K. Pringle of Harrogate already in attendance, having been urgently summoned. We elicited with difficulty from the patient's wife, who was very deaf, the statement that the patient had, at 6 P.M., while alone, taken a dose of his medicine; had dressed and gone down to dinner at 7 P.M., and during the meal had felt very ill and appeared dazed and giddy. He had made no remark as to having noticed anything peculiar about his medicine. He was taken up to his room, undressed, and put to bed, when he speedily became unconscious. We found he had by him a mixture containing salicylate of sodium to be taken in effervescence with an acid julep; and a six-ounce bottle of liniment for external use, made up of one ounce each of lin. aconiti, lin. belladonnæ, lin. chloroformi, tinct. capsici, and two ounces of oil of gaultheria. It was supposed that he had taken one tablespoonful of his liniment in mistake for one of the julep; no one had seen him take it, but a tablespoon smelling of the liniment was found in a glass on the dressing-table.

The patient's condition was as follows. He was unconscious, lying on his back with a flushed face and stertorous breathing; he had convulsive clonic movements of both hands and arms, and occasionally of the legs and body; the eyes showed slow conjugate movements to right and left; the corneal reflex was absent; the pupils were of medium size, neither contracted nor dilated, and responded sluggishly to light; there was no sign of paralysis of the face or limbs. The pulse was rapid, 110, feeble, and of low tension, and the heart's apex was well outside the nipple line and the sounds were feeble. Not the faintest trace of the smell of gaultheria was noticeable about the breath.

The first question was, Had poison been taken at all, or was the case one of cerebral disturbance or uræmia? The evidence that poison had been taken was limited to the spoon smelling of the liniment; and this might well be explained by the patient having poured some out with which to rub

[1] THE LANCET, Feb. 29th, 1908, p. 623.

himself. There was no dilatation of the pupils such as would certainly have been expected four hours after taking a considerable dose of belladonna; nor was there about him any smell of wintergreen, the odour of which is so penetrating and characteristic as to be readily recognisable. We learnt afterwards that he had complained of distension and pain over the stomach region, but the symptom was not present at the time. The rapid feeble pulse was against cerebral hæmorrhage, but did not negative the possibility of thrombosis, though the absence of any paralysis was against both these. The absence of high tension of the pulse was against uræmia; moreover, a specimen of urine drawn off by the catheter was found to be free from albumin and sugar. On the whole, I thought the probability was that he had not taken the poison and that the symptoms were due to some obscure cerebral irritation. However, it seemed wise to wash out the stomach, although so long a period as four hours had elapsed since the dose was said to have been taken. The introduction of the stomach-tube promptly caused a copious vomit, which smelt strongly of wintergreen, and proved conclusively that the liniment had been taken.

The patient's condition was now somewhat critical; the pulse varied from 130 to 140, was extremely feeble, and at times was felt with difficulty; the extremities were cold and the lips blue, but the face retained a dusky flush; the convulsive movements were increasing. It seemed clear that the aconite was the poison mainly at work and was causing extreme depression of the heart. I gave the patient 10 minims of liq. strychninæ hypodermically and injected eight ounces of hot strong coffee slowly into the rectum, applied hot bottles, and wrapped him up in hot blankets. After about an hour, during which his condition gave rise to great anxiety, he began to rally, became semi-conscious, and rambled in his speech; the convulsive movements gradually ceased and the pulse became fuller and stronger and the body surface warm. At 3 A.M. his condition had so far improved that I ventured to leave him in charge of a nurse. The next morning he was better; the pulse, though still rapid, was of good quality, and beyond being somewhat dazed and shaken he expressed himself as feeling very well, and refused to believe that anything serious had happened. For the next few days, during which his only complaint was of numbness and tingling in the fingers, he was kept at rest in bed until his circulation had resumed its usual state, which showed itself to be one of high tension, bounding vessels, and hypertrophied heart. His recollection gradually came back of having noticed a pungent taste with tingling of the mouth after taking his medicine, but he thought nothing of it at the time, nor did it occur to him that he had made any mistake.

The quantities contained in the tablespoonful dose of the liniment were 40 minims each of lin. aconiti, lin. belladonnæ, lin. chloroformi, and tinct. capsici, with 80 minims of ol. gaultheriæ. The gaultheria and chloroform may be neglected as being insufficient in quantity to produce much toxic effect. The capsicum, beyond being irritant, would do no harm, and conceivably may have been salutary by acting as a reflex stimulant. There remain the belladonna and aconite. Forty minims of lin. belladonnæ would contain 0·15 grain of alkaloids (atropin and hyoscyamin mainly), or about 1-7th grain, the official dose of atropin being 1-200th to 1-100th grain. As compared with the tincture, the liniment of belladonna is eight times as strong. The maximum dose of the tincture being 15 minims, then 40 minims of the liniment would represent a dose 21 times greater than the maximum—i.e., about 5 drachms. It is a matter of surprise that so large a dose should have caused no dilatation of the pupils: it was this fact, together with the absence of the smell of gaultheria, that largely influenced me in doubting whether poison had been taken at all.

As regards the aconite, taking the recognised standard for aconite root as containing 0·5 per cent. aconitine, then 40 minims of lin. aconiti would be equivalent to 0·132 grain aconitine—i.e., about 1-8th grain, or 31 times the maximum dose, which is given as 1-250th grain. Put in another way, the liniment is 13 times the strength of the tincture, of which the maximum dose is 15 minims. In this case 40 minims of the liniment represent 35 times the maximum dose of tincture of aconite, or a dose of 8¾ drachms!

Bearing in mind the well-known extreme toxicity of aconitine, the patient must be regarded as singularly fortunate in having escaped with his life.

Harrogate.

A METHOD OF REMOVING NASO-PHARYNGEAL FIBROMATA, WITH TWO ILLUSTRATIVE CASES.

BY THOMAS GUTHRIE, M.A., M.B., B.C. CANTAB., F.R.C.S. ENG.,

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NASO-PHARYNGEAL fibromata are somewhat rare growths presenting certain well-defined characteristics. They occur almost exclusively in the male sex between the ages of 10 and 25 years. They arise as a rule from the basilar fibro-cartilage, but more rarely also from the margin of the internal pterygoid plate and from within the spheno-palatine and spheno-maxillary fossæ. They grow with considerable rapidity always in the direction of least resistance, making their way into the neighbouring cavities, the walls of which become thinned by pressure and eventually give way. In spite of their clinical malignity they are benign growths and neither infiltrate nor cause metastases. As seen in the naso-pharynx they are smooth tumours of a pink colour, and to the touch they are almost always exceedingly hard. Histologically, they are composed of dense fibrous tissue provided, especially near their point of attachment, with numerous large blood-vessels, the presence of which accounts for the marked tendency to spontaneous hæmorrhage. If left to themselves they cause death from suffocation, intracranial invasion, hæmorrhage, or exhaustion unless the patient previously reaches the age of 25 years. At this age growth probably always ceases and not infrequently complete disappearance of the tumour has been observed.

During the early stages, when spontaneous hæmorrhage is often absent, the only symptoms are those due to nasal obstruction, so that the growth has not infrequently reached a considerable size before the patient comes under observation.

By the repeated employment of electrolysis or the galvano-cautery over a long period the growth may be kept in check until the patient reaches the age of 25 years or it may in very early cases be completely eradicated, but such measures are always extremely tedious and disagreeable to the patient, and not infrequently fail to attain their object. Complete removal by operation constitutes the only entirely satisfactory method of treatment, and in order to accomplish this steps must first be taken in all but the earliest cases to provide free access to the growth. Of such preliminary operations division of the soft palate, either alone or with removal of the posterior part of the hard palate and nasal septum (operation of Nélaton), has perhaps been more often employed than any other. This method, however, possesses the disadvantages of providing very imperfect access, and of involving the risk of subsequent imperfect closure of the naso-pharynx by the soft palate.

Exposure of the growth from the nasal aspect may be obtained by temporary resection or partial or complete removal of the upper jaw. These operations are, however, necessary only in advanced cases when the tumour is of very large size and has become firmly fixed to the walls of neighbouring cavities. As a general rule it is sufficient to adopt some method of enlarging the bony anterior nasal aperture (apertura pyriformis) in such a manner as to permit of the free use of a strong periosteal elevator passed through the nose for separating the naso-pharyngeal attachment of the growth. This enlargement may be effected by making an external incision along the angle between the nose and cheek, separating the soft parts, including the periosteum, and removing a sufficient amount of bone from the margin of the anterior nasal aperture. It occurred to me, however, that the facial scarring which this involves might be avoided and the necessary amount of bone equally well removed *from within* the nose by means of an incision through the muco-periosteum covering the inner aspect of that portion of the superior maxilla which forms the outer margin of the pyriform aperture. In each of the cases here reported this method was adopted and proved quite satisfactory, ample space being obtained with a subsequent complete absence of deformity.

As already indicated, separation of the growth is effected by means of an elevator passed through the nose assisted by

two fingers in the naso-pharynx. The instrument figured, which I have had made for the purpose, served very well (Fig. 1). It is considerably longer than the ordinary periosteal elevator, and has a curved end and a rounded tip with a half-sharp edge.

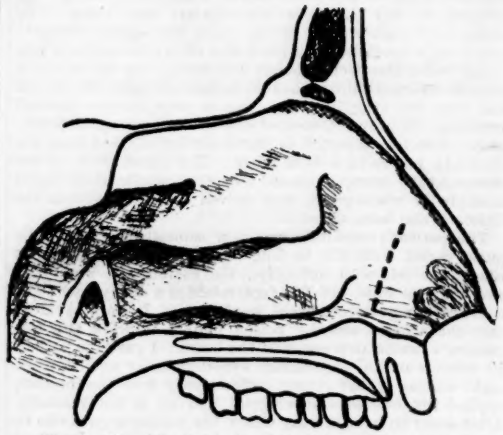
Hæmorrhage during the removal of these growths is usually very severe. In all but the earliest cases a preliminary laryngotomy must be performed and the pharynx plugged with a sponge. As pointed out by Brady,[1] the bleeding is least if the elevator in separating the growth is kept close to the point of attachment and the surface of the tumour is not interfered with. Separation must be conducted as rapidly as possible, since when it is completed the hæmorrhage usually ceases; if it does not do so a plug of iodoform ribbon gauze is required. Preliminary ligature of the external carotid artery is needed only in very extensive cases.

FIG. 1.

Elevator. One-half actual size.

During the last three years five cases of the disease have come under my observation, and in two of them it has fallen to my lot to remove the growth. In the first case, that of a boy 15 years of age, gradually increasing obstruction had been noticed for about two and a half years, and there had been two or three attacks of spontaneous hæmorrhage from the left nostril. Two unsuccessful attempts had been made to remove the growth on the assumption that it consisted of a large mass of adenoids. The growth filled the greater part of the naso-pharynx and a portion of it projected forwards into the left nasal cavity. Removal of a small piece for microscopic examination was followed by free hæmorrhage. The portion removed presented the typical histological characters of a naso-pharyngeal fibroma. In order to prevent hæmorrhage during the preliminary widening of the bony anterior nasal aperture, a submucous injection of a few drops of normal saline solution containing 4 parts in 60 of adnephrin solution (1–1000) was made, and cotton-wool soaked in adnephrin solution was applied within the left nostril. Laryngotomy was then performed, a tube was inserted, and the pharynx was plugged with a sponge. An incision was then made within the left nasal cavity in the situation indicated in the diagram (Fig. 2). The muco-periosteum within and the periosteum and soft parts without were easily separated with a sharp Freer's elevator, and sufficient bone removed with punch forceps to allow free movement of the special elevator during removal of the growth. (Fig. 3.) With two fingers in the naso-pharynx and the elevator passed through the left nasal cavity the attachment of the growth to the vault and the posterior and outer walls of the naso-pharynx was rapidly separated, and the mass seized with strong catch forceps and drawn out through the left nostril. During separation the sharp edge of the elevator was kept close to the bone so as to leave the latter quite bare after removal of the mass from its place of attachment. The hæmorrhage was very free, but it ceased shortly after removal was complete, and no packing was required. The laryngotomy tube was removed at once and the wound was closed. The growth was -shaped, the vertical or naso-pharyngeal limb measuring 1½ inches in length and the horizontal or nasal limb 1¾ inches. The growth appeared to have been entirely removed, but this proved to be not the case, as some four months later, left-sided nasal obstruction having returned, a similar operation proved to be necessary for the removal of another portion of the tumour. This was situated partly in the left half of the naso-pharynx and left nasal cavity, but mainly in a large cavity apparently representing the expanded spheno-maxillary fossa. Separation was rather difficult owing to the situation of the greater part of the tumour, but was effected partly by means of the curved elevator and partly by strong traction with catch forceps. The insertion of a gauze plug was required to arrest the hæmorrhage. The tumour on this occasion was rather larger than that first removed, being somewhat spherical in shape, with a diameter varying from 1½ to 2 inches. It represented, no doubt, a portion of the original mass which occupied the spheno-maxillary fossa. It is now more than a year since the second operation and there has been no recurrence of the growth.

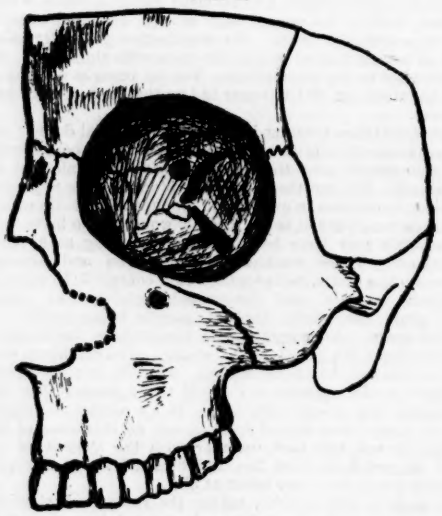
FIG. 2.



The situation of the incision through the muco-periosteum is indicated by the dotted line.

In the second case, that of a boy 16 years of age, nasal obstruction had been present for about three years, and had become so marked that the left side of the nose was completely blocked and the right very nearly so. There had been no spontaneous hæmorrhage. Removal was accomplished in exactly the same manner as in the first case, excepting that the growth after separation was removed through the mouth, being too large to be drawn through the nostril. Hæmorrhage was free during removal, but soon

FIG. 3.



To illustrate the widening of the pyriform aperture by removal of a part of its bony margin. More bone than this can if necessary be easily removed through the muco-periosteal incision.

[1] Journal of Laryngology, 1906.

ceased and no plug was required. The growth was L-shaped, consisting of nasal and naso-pharyngeal limbs measuring respectively 2½ inches and 2 inches in length. The attachment was mainly to an area about the left choanal margin, but partly also to the roof of the naso-pharynx. Healing was rapid, and up to the present time (six months after the operation) there has been no recurrence.

The method employed in these two cases is essentially that advocated by Brady, with the difference that the bony anterior nasal aperture is widened through an intranasal instead of an external incision. The operation would probably be suitable for all cases of naso-pharyngeal fibroma excepting, perhaps, those which have, before coming under observation, attained a great size with numerous offshoots in neighbouring cavities, for which some form of osteoplastic resection of the upper jaw may be required. The operation is, moreover, comparatively free from danger, involves no scarring or deformity, and permits of at least as complete a removal as any other method.

Liverpool.

THE TREATMENT OF ASCITES BY DRAINAGE INTO THE SUBCUTANEOUS TISSUES OF THE ABDOMEN.

BY PETER PATERSON, M.B., C.M. GLASG.,
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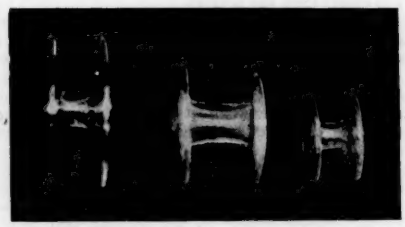
IN THE LANCET of August 15th, 1908, p. 456, I described a method of treating spina bifida by establishing a drain, composed of silk threads, between the subdural space and the subcutaneous tissues of the scalp. This is a modification of a somewhat similar method I have been using for draining the peritoneal cavity in cases of ascites. In this condition a drain composed of strands of material, such as silk, would not answer the purpose, as the end of the drain which projected into the peritoneal cavity would soon become encapsulated and so rendered useless. For this situation I employ a glass drain of such a shape that it will not slip into the peritoneal cavity. These drains or buttons are of various sizes, so that a suitable one can be chosen for each case.

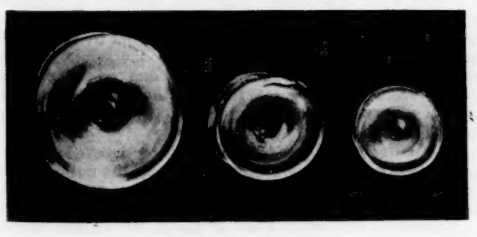
The buttons consist of a perforated glass cylinder expanded into a flange at each end. (Fig. 1.) The largest

FIG. 1.



size measures one inch across the flanges, three-quarters of an inch between the flanges, and has a canal one-twelfth of an inch wide. (Fig. 2.) The flange itself has a thickness of

FIG. 2.



about one-sixteenth of an inch. The diameter of the flanges and the width of the canal may be the same in the various sizes; but it is essential that the cylindrical part should vary in length, as this part has to pass through the thickness of the abdominal muscles, and as this thickness varies in different individuals so also must the length of this part of the button. In practice I have found it a convenience to have variations in the size of the flanges also, but this is not nearly so important as having gradations in the length of the cylinder. Care must be taken to have all the edges and corners rounded and that every part is perfectly smooth.

The operation is a simple one. An incision, about three inches long, is made in the middle line below the umbilicus, and the peritoneal cavity is opened in the line of the incision. If the abdomen has not been previously tapped the greater part of the ascitic fluid escapes at this stage. The omentum is now drawn down and removed at a level well above the point where the drain is to be placed, because, if left, it very soon passes into the opening in the drain and completely blocks it. The first case I did was a failure owing to my having neglected this precaution. The subcutaneous tissues are now dissected outwards, on one side, till the semilunar line is exposed, and through this an opening is made into the peritoneal cavity. This opening should just be large enough to permit the button being placed in position. The drain may be passed either from the peritoneal or subcutaneous side, but if from the latter care must be taken to avoid stripping the peritoneum from the edge of the opening when inserting the tube, or the flange may come to lie between the peritoneum and the subperitoneal tissues. By slipping one flange edgeways through the opening there is no difficulty in placing the button in position. When a suitable size has been chosen one flange should lie flat on the peritoneum and one on the abdominal aponeurosis, without any pressure being exercised on the intervening tissues. If too long, the apparatus would project into the peritoneal cavity, and the intestines might get nipped between the flange and the abdominal wall; while if too short, the button would tend to cut its way through the thickness of the tissues in its grasp. If the opening for the drain has been made too large and the edges do not grip the button firmly, a purse-string suture should be placed close to the button on the aponeurotic side, so that when tightened the soft tissues are brought into close contact with the groove in the drain.

The subcutaneous tissues are next closely stitched by a continuous suture to the anterior layer of the sheath of the rectus. This suture is placed about one inch from the margin of the primary incision and parallel with it. By this means the superficial end of the drain is shut off in a compartment of its own, and the fluid, as it escapes from the peritoneal cavity, is prevented from throwing too much strain on the suture closing the skin incision. The primary wound is sutured in the usual manner, the skin being closely stitched by a buttonhole suture to prevent any leakage. A collodion dressing applied to the wound gives additional support. This dressing is reapplied as often as required till the skin wound is firmly healed.

For one or two days afterwards the patients usually complain of pain round the neighbourhood of the button, but when this has passed off no further discomfort is experienced. If the quantity of peritoneal exudate be considerable a fluctuant swelling, almost of the size of the fist, forms within 24 hours in the subcutaneous tissues round the drain; but as absorption becomes established in the superficial vessels the swelling diminishes, till only a slight œdema remains to show that fluid is still escaping. When the exudate is small in quantity the swelling does not pass beyond the stage of œdema. It might be supposed that the intestines would adhere to the peritoneum round the edge of the button and thus shut it off from the peritoneal cavity, but in two cases which died several weeks after the operation, and in which a post-mortem examination was made, no adhesions were found and the peritoneum was quite smooth up to the edge of the opening; nor was I able to find, even after microscopical examination, any evidence of what might be possible, the peritoneum growing round the edges of the opening to the outer aspect of the drain and so encysting it.

I have performed this operation in several cases of ascites secondary to malignant disease, and also in cases of cirrhosis of the liver, with marked diminution of the abdominal distension, and to the great relief of the patients.

Glasgow.

PRELIMINARY OBSERVATIONS ON SOME CASES OF ESOPHORIA NOT CAUSED BY REFRACTIVE ERRORS.

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AMONGST the large number of patients applying to the ophthalmic hospitals for relief from headache are many in whom the usual routine examination fails to disclose any refractive error to which their symptoms can be attributed. An examination into the condition of their muscle balance if carried out with a Maddox rod and candle at six metres will not disclose any abnormality. An examination under a mydriatic will also fail to discover any astigmatism or hypermetropia. These cases are, therefore, returned as normal and, in the event of a fundus examination revealing nothing abnormal, they will be advised that there is nothing in their eyes to cause the symptoms of which they complain.

This examination, complete though it may seem to be at first sight, is lacking in one important particular. The muscle balance at the time that the patient is accommodating for a near point has not been tried. If this addition be made to the routine examination it will not be long before the observer comes across a number of cases presenting the following clinical picture.

Type.—Usually nervous introspective persons engaged in a hard struggle for existence, or recovering from a serious illness, and who are constantly using their eyes for near work. The majority belong to that class from which neurasthenics are recruited, and, indeed, many show well-marked symptoms of that disorder.

Age.—Usually from 25 to 40 years. The youngest case seen by the writer was a girl, aged 18 years.

Symptoms.—Their complaint is always of headaches brought on by short periods of close work. The more intelligent will inform you that in reading the print soon becomes blurred, and that they have to close their eyes for a few moments before they can resume work. The relief thus obtained is, however, only of a temporary kind. These patients never complain of any discomfort when using their eyes for distant vision.

Examination.—The conjunctivæ are sometimes injected.

Vision.—Distant vision is good, 6/6 and often 6/5 being read with either eye.

Near vision.—As a rule no manifest hypermetropia or at the most only + 0·5 D. can be elicited. The smallest Jaeger type with each eye separately at a distance somewhat closer than normal. When tried with both eyes together any sustained effort to read fine print causes the symptoms of which the patient complains. The print is said to be blurred and the words to be all jumbled up. The patient is observed to hold the print closer to the eyes than normal.

The muscle balance.—Testing with the Maddox rod at six metres fails to discover any error in muscle balance, but the use of Harman's diaphragm test, the patient accommodating, at once discloses a condition of esophoria. A normal person if asked to read a row of capital letters seen through the diaphragm will do so with ease. The patients we are now considering, however, experience great difficulty and often fail to read the letters, which are described as "dancing about." The test has, in fact, betrayed a want of muscle balance which is always an esophoria. If whilst the patient is trying to read these letters a + 1 D. sphere is placed before each eye all confusion ceases, and the patient is enabled to read the letters without discomfort. This observation is repeated if the patient is given a pair of these lenses for reading purposes; comfort is at once restored, and reading can be continued for an indefinite period without fatigue or headache resulting, whereas without this aid a few minutes' reading suffices to produce such symptoms.

Examination under a mydriatic.—The mydriatic used by the writer has been, as a rule, the oily solution of homatropine and cocaine āā 2 per cent. This is instilled into the conjunctival sac, and in one hour a retinoscopy is performed, and no error of refraction is discovered.

To sum up, the only abnormality to be found by accurate testing in these cases is an esophoria when the patient is accommodating for a near point. This esophoria is at once relieved by placing a weak convex glass in front of each eye. The clinical picture presented in these cases is so uniform that a record of one serves for all.

The three following cases seen in private practice show that this class of case is not confined to the out-patient department, and are also of interest since they illustrate the three different types of patient who would seem to suffer from this form of esophoria.

CASE 1.—Patient, aged 29 years, complained of headaches when working. There were no headaches when she was walking about or when she was at the theatres. Vision = 6/6 right and left; no manifest hypermetropia. Jaeger No. 1 with each eye separately, but binocularly the print became confused almost immediately. No deviation with Maddox rod and candle at six metres. Diagram test showed esophoria. With a + 1 D. sphere before each eye the patient could read off the letters easily. Reading for a quarter of an hour with the aid of these lenses failed to bring on any unpleasant symptoms. Under homatropine and cocaine shadow turned with a + 1·5 D. in both meridians, right and left. Vision = 6/6 c. + 0·75 D. sphere right and left. Fundi normal. *Note:* This patient was a hard worker as a masseuse, starting at 6 A.M. and continuing to rush from one place to another till late at night.

CASE 2.—Patient, aged 40 years, unmarried. A very bad family history of delusions and insanity. The patient herself had suffered from "delusions" and during the consultation was observed to be very absent-minded. She complained of headaches on close work, but not at other times. Vision = 6/5 right and left. Manifest hypermetropia + 0·5 D. Jaeger type No. 1 with each eye separately, but with both eyes together this type was blurred. No muscular imbalance at 6 metres. With diaphragm test distinct confusion, relieved by a + 1 D. sphere before each eye. Fundi normal. The patient read newspaper print quite comfortably for some time with these glasses.

CASE 3.—Patient, aged 35 years, unmarried. History: Operation four months previously for appendicitis, and she had been "run down" since then. She complained of headaches when sewing and reading. Vision = 6/5 with both right and left eye. No manifest hypermetropia. Jaeger type No. 1 with each eye separately, but was confused when given binocular vision and complained of a "strained" feeling. With diaphragm test patient could only read the first two letters, the intermediate letters being confused. Ordered + 1·25 D. right and left for near work.

These cases, therefore, show that complete relief may be obtained by the use of weak convex glasses. The theory by which the writer endeavours to explain these symptoms will now be stated.

The error to be accounted for is, as we have seen, an esophoria. This particular form of imbalance can take the form of (1) an insufficiency of an abductor muscle, or (2) an over-action of an adductor muscle. In other words, it may be a divergence insufficiency or a convergence excess. In the cases which we are considering the fault is a convergence excess, for the patient presents the following characteristics of that condition: (1) there is no deviation for distance; (2) there is marked deviation for near vision; and (3) the near point at which the patient prefers to hold printed matter is closer than the normal.

It is a fact that accommodation and convergence are intimately connected; the stimulus for the former is, under ordinary conditions, the stimulus for the latter. Any unusual effort of accommodation must be combined with a strong impulse towards convergence. This fact, dependent upon the nerve supply of the muscles affected, was advanced by Donders to explain the occurrence of the convergent strabismus in hypermetropia.

In the cases now under consideration there is no error of refraction requiring excessive accommodation for its correction. It is, however, easy to imagine a state of fatigue affecting the ciliary muscle, a loss of tone, that is to say, similar to the general muscular fatigue so often complained of by these patients. The effect of this loss of tone would be a weakening of the response on the part of the ciliary muscle to the usual stimuli, and this in itself would lead to an increased stimulus being sent to the ciliary muscle, and at the same time to the adductor muscles. There would be an increased effort of accommodation, and therefore an increased effort to converge, or, in other words, an esophoria due to convergence excess. This theory is borne out by the clinical fact that a weak convex glass relieves the symptoms. As soon as the subnormal accommodation due to fatigue of the ciliary muscle is compensated for and the need for excessive stimuli eliminated, the convergence excess is replaced by the normal amount of convergence.

The writer ventures to submit this detailed account because, so far as he is aware, these cases are not described in any text-book, nor has their existence been widely recognised, if at all. The cases described are those which are diagnosed only when a test of the muscle balance during accommodation is made as a routine measure; even then success is only attained because the symptoms are promptly

elicited. This leads one to reflect on the possibility of there being cases in which these symptoms of fatigue do not manifest themselves until a longer period of time has elapsed, until, that is, the eyes have been accommodating for an hour or more. If this were so, it would account for many cases of asthenopia, the causation of which has not as yet been worked out, and the treatment of which is empirical and often unsuccessful.

At first sight these cases may seem to belong to that class to which the label "accommodative asthenopia" has been given. In the case of a patient suffering from "accommodative asthenopia," however, the symptoms are caused by the inability of the ciliary muscle to respond to *excessive* demands made upon it for the correction of hypermetropia. In the cases described in this article there was no excessive demand on the ciliary muscle and no error of refraction. It would seem that the ciliary muscle was unable to respond to ordinary requirements.

Such cases are more closely allied to those classed under the heading of "muscular asthenopia," where the symptoms are due to some kind of heterophoria. The usual description of such cases lays no stress on esophoria as liable to produce unpleasant symptoms, but exophoria is usually stated to be the most troublesome of these two conditions, and, moreover, is stated to be the one most usually found in emmetropes suffering from neurasthenia.

There are at least two reasons for insisting on the importance of these cases of esophoria, viz.: (1) the ease with which they may be passed over; and (2) the fact that they may be confused with cases of "retinal tire." The symptoms of "retinal tire" are in the main the same as those complained of by the patients whose symptoms are now being described. In each case there is a dimness of vision coming on after a short period of close work, rendering any further use of the eyes impossible until after a short period of rest; this, however, gives no permanent relief in either case. In cases of "retinal tire" it is the retina that is at fault, and no relief can be obtained with glasses. In the cases of esophoria, however, a glass at once relieves the patient and restores visual acuity.

The treatment of such cases by giving the required convex glass may be open to criticism, since by so doing one is relieving a symptom rather than treating the cause. In the writer's opinion the prescription of glasses should be combined with treatment by drugs. In the majority of these cases the patients are dependent for a living upon the constant use of their eyes for near work. They are unable to take prolonged holidays, and they demand, and have a right to expect, immediate relief if this can be given to them.

It may perhaps be argued that these cases are dependent upon the onset of presbyopia. It is difficult to see how this statement can be supported in the case of a girl, aged 18 years, seen at the Westminster Ophthalmic Hospital, and whose notes (published by kind permission of Mr. E. W. Brewerton) conclude this article.

CASE 4.—Patient, a girl aged 18 years. Complained of headache when reading. Vision = 6/5 in both eyes. Manifest hypermetropia of + 0·75 in each eye. Esophoria when tried with the diaphragm test. Relief obtained with a + 1 D. sphere in front of each eye. Unguentum atropinæ, 1 per cent., used three times a day for seven days. Retinoscopy shadows turned with a + 1·75 D. sphere in both meridians. Vision: 6/5 right and left c. + 1 D. These glasses ordered for near work. The patient reported in one month, and stated that all headaches had ceased since using the glasses.

Harley-street, W.

TWO CASES OF MALIGNANT PUSTULE.

BY L. A. PARRY, M.D., B.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON.

A YOUNG Dutchman, aged 23 years, who had been in Hove only a few days, came in to see me one morning with a small sore place on the back of his right wrist. He said that about 18 hours previously he had noticed an itching sensation there, but it had not been very painful nor had it made him feel ill at all. On examining the wrist there was a small dark eschar with a ring of vesicles placed irregularly round it. There was marked œdema for some distance, and very distinct lymphangitis extending up above the elbow both back and front. There were very few constitutional symptoms. From the appearance of the primary lesion and the acute and rapid œdema I had no doubt that I had a case of anthrax. I excised at once a large area of skin and subcutaneous tissue, a circle about 1½ inches in diameter, which included the eschar and the vesicles and some surrounding healthy tissue, and painted the raw surface with pure carbolic acid. The patient made an uninterrupted recovery. The local symptoms began to clear up at once, and no severe constitutional signs appeared.

I was unable to trace the source of infection. The patient had nothing to do with leather, hides, or wool, nor had he been in contact with any horses or other animals. There is no anthrax in Hove, nor has there been any for years. Yet he must have been infected in the town, for the incubation period is generally a few hours or, at the most, does not exceed three days.

The second case is that of a man, aged 53 years, who was engaged in repairing baskets used in the foreign postal service. This work included the fixing of hinges and fastenings of strips of the skins of animals. He had a small pimple on his neck, which he scratched after working in some raw hides. From the small scratched pimple there rapidly developed a typical malignant pustule. There was a very considerable and rapidly spreading œdema round the anthrax pustule. The patient was sent by me at once to hospital, and the lesion was excised, but in spite of this he died a short time after.

The variety of external anthrax known as malignant pustule is generally (in this country in more than 99 per cent. of the cases) found on some exposed surface, such as the face, hands, or arms. Both my cases illustrate this. As to the source of infection in my cases, in the first I can find none of the usual causes, and I can only suggest that some unusual and unrecognised accidental handling either of an infected animal or infected animal product took place. As anthrax in animals is fairly abundant and frequent (in 1892 there were over 300 outbreaks in Great Britain, and seven of these were in Sussex), this is not difficult to imagine. In my second case the infection was almost certainly from the leather straps which the patient cut in the course of his work. This is, of course, an unusual source, but as he handled raw hides it is an easily explicable one. These hides were used untanned and were simply cut and soaked in water. A similar case had been known in the Post Office some years before. New regulations have been made since the second case by the authorities with the object of preventing its occurrence again.

The prognosis of malignant pustule depends very largely on the treatment adopted and the stage at which it is carried out. But there are other factors of importance; thus it is much more fatal on the neck than on other parts of the body. In this country, where the disease is rare and perhaps not always recognised at once, the mortality is high. During the years 1873–93 there were 115 cases of external anthrax in London, and of these 20 per cent. were fatal. Of the cases treated at Guy's Hospital at a later date, 1896–98, only 1 out of 26 proved fatal. The statistics of foreign countries are much more favourable. M. Le Roy des Barres had 72 cases, 57 in leather dressers and 15 in hair workers, and of these 62 recovered. Muskett of South Africa describes 50 cases with no death. His treatment consisted of ipecacuanha internally and externally. Mr. S. L. Woolmer of the Argentine Republic reports nearly 500 instances with only 2 deaths. Probably his unique opportunities enabled him to recognise the lesion at the very earliest stage. In this connexion the following extract from a letter from Argentine may be of interest:—

Here in camp, where one never sees a doctor, and when many of our peons often get anthrax during the summer, they do not die, and get well when treated by an ignorant native. Here when a man takes the infection it can be recognised at once as looking like an angry boil with a black or dark purple head; off he goes to a "curandera," generally an old woman. She takes a piece of thick wire, heats it red hot, and proceeds to burn away the centre of the boil. As the process goes on the flesh can be seen to burn away without feeling it till the sound part is reached.

The only treatment for malignant pustule that need be referred to is that which is practically universally adopted—namely, destruction of the primary focus of infection, either by caustics, the cautery, or the knife. The last of these is the best. It is that which is adopted at Guy's Hospital, where the results of late years have been very satisfactory. The pustule should be freely excised, with a good margin of healthy skin round and the raw surface painted with some strong caustic, such as pure carbolic acid. If this treatment is undertaken early the results are exceedingly good. Untreated cases are usually fatal within the week.

Prophylaxis is important. Unfortunately, very little can

be done for the external variety of anthrax. The wet cure of hides is largely adopted by the trade instead of the dry cure. It should be universal. For the internal varieties of the disease important regulations have been drawn up by the sanitary committee of the Bradford town council. These regulations, important as they are, are, in my opinion, not so good as those originally suggested by Dr. T. W. Hime, the medical officer of health of Bradford.

Hove.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF CHOREA TREATED BY THYROID EXTRACT.

BY PERCY A. RODEN, M.D. ABERD.,
HONORARY PHYSICIAN TO THE BRINE BATHS HOSPITAL, DROITWICH.

THIS case having caused me a considerable amount of anxiety, I publish it with the hope that others who have had similar cases may relate their experiences and so shed a further light on this very distressing malady.

The patient, a girl, aged 10 years, was brought to me three years ago with acute symptoms of chorea. Her restlessness was very marked, more especially in the arms and legs which were never quiet. The face and neck were very slightly affected. There were no facial twitchings, but an occasional jerk of the head to one side. The heart appeared to me quite normal; there was no murmur to be detected at the apex or at the base; the apex beat was not displaced, and there was no indication of any enlargement. I treated the child with arsenic in steadily increasing doses, at the same time giving gentle saline aperients (sodii phosph.), and ordering a simple diet which should be nourishing and at the same time not irritating—viz., porridge made of quaker oats, plenty of milk and cream, farinaceous puddings, vegetables, and ripe fruit. The child, however, showed no improvement. I ordered her to remain away from school, and commenced a course of treatment with potassium iodide, and as that gave no result I tried the combination of iodide with the bromide of potassium, still with no improvement. After having tried salicylates and quinine without good effect I took the child into St. John's Hospital for brine baths, and in a fortnight she was able to return home apparently well. She then returned to school, but in a month's time the jerky movements and want of coördination began to return, and the child became listless and showed signs of wasting. I ordered her once more to be kept from school, and prescribed cod-liver oil together with bromide and iodide of potassium, and then as she showed no improvement I took her once more into St. John's Hospital where she quickly lost her jerky movements, and was able to return home apparently quite well.

I was greatly in hopes that this second course of brine treatment would prove permanent. I did not see the child for some months, but was asked by the mother at the beginning of this year to call and see her, as she was worse than ever. Accordingly I went and found the girl suffering badly. Her mother begged me to take her once more into the hospital, which I intended to do, but while talking to her the other children (two girls) came in from school looking rosy and well, and I noticed that each of them suffered with goitre. I then examined the throat of my patient, but found no trace of goitre. I could not help thinking that perhaps she might have some thyroid insufficiency so I gave her teaspoonful doses of the fluid extract of the thyroid gland (prepared by Duncan and Flockhart of Edinburgh) twice a day with the most surprising result. The child showed marked improvement in the first week and returned to school in the second week, still continuing with the thyroid extract. With this she persevered twice a day for a month, and then was ordered to take it only once a day for the next month.

I have seen the child frequently and she looks rosy and well, showing no sign of chorea. This improvement has now been maintained for over nine months.

Droitwich.

A CASE OF CONCURRENT EXTRA- AND INTRA-UTERINE PREGNANCY.

BY FRANCIS W. DAVIDSON, M.B., CH.B. ABERD.,
LATE HOUSE SURGEON, ROYAL HOSPITAL, RICHMOND.

ON the morning of Feb. 9th of this year I was called in to see a woman, aged 32 years, who had been seized with a sudden sharp pain in the right side of her abdomen. I found the patient in bed in a collapsed condition. She was very pale and her pulse was small, rapid, and thready. Her symptoms and general appearance were those of internal hæmorrhage. The history was briefly as follows. She had not menstruated since the middle of December, 1909. At intervals during these two months of amenorrhœa she had sharp pains in her right side, but as they did not last long she had not sought medical advice.

On examination I found she was very tender over the lower part of her abdomen and quite dull in the flanks. I diagnosed ruptured ectopic gestation and ordered her immediate removal into the Croydon General Hospital. She was admitted under Dr. J. Wayte, who performed a right-sided cœliotomy the same afternoon. On examining the extracted ovum he found two fœtus of about two months' development. The patient made a good recovery and was discharged from the hospital on March 13th. About the middle of May she informed me that she thought she was still pregnant, as she had "felt the baby moving" since the end of April. I told her to come back and see me in a couple of months. This she did, and an examination left me in no doubt that she was about seven months pregnant. I gave her the middle of September as the probable date of accouchement and on Sept. 17th I delivered her of a healthy full-term female child. There was no trouble with the abdominal scar at the confinement and the patient had a perfectly uneventful puerperium.

Thornton Heath.

VASO-MOTOR RHINITIS OF 20 YEARS' DURATION; SUBMUCOUS RESECTION; COMPLETE RECOVERY.

BY CHARLES A. ADAIR DIGHTON, F.R.C.S. EDIN.,
HONORARY OPHTHALMIC AND AURAL SURGEON TO THE SCARBOROUGH HOSPITAL.

THE following case, which came under my charge early in April of this year, seems worthy of notice.

A well-built, particularly healthy-looking man, aged 30 years, came to me complaining of attacks of hay fever and rhinorrhœa occurring regularly every seventh day and completely incapacitating him from work on those days. He had been a butler, but owing to the disease had to give up his situation and is now a painter. Twenty years ago he had an attack of influenza and bronchial asthma, since which time he had had an attack of hay fever and rhinorrhœa every seventh day. He had been to several infirmaries and had had his frontal sinus opened and both sides of the nose cauterised with no effect. There was no history of accident or injury. On examination the nasal septum was found to be markedly deflected to the right side, showing a large bend in the superior portion and a large ridge on the vomer in the lower portion. The concavity on the left side was compensated for by a large middle turbinal. No polypi or pus was present, and the antrum was normal on transillumination. Under cocaine adrenalin anæsthesia I removed the nasal septum and ridge by the submucous method. The man returned to work on the third day after the operation and has continued at it ever since, with no sign whatever of any recurrence of the symptoms and has had no treatment whatever beyond a menthol spray after the operation followed by an alkaline douche, these being altogether stopped at the end of a fortnight.

The chief points of interest seem to be: (1) the antecedent bronchial asthma and influenza, probably setting up a condition of hypertrophic turgescent rhinitis in an already predisposed nasal cavity, the turgescence increasing for seven days and terminating in an attack of rhinorrhœa and hay fever; (2) the extraordinary periodicity of the attacks; and (3) the severity of them. Ballenger in his book notes a case of coryza œdematosa which appears somewhat similar, but in it the patient showed several œdematous spots, which

were entirely absent in my case, as the only signs present were a seemingly acute hypertrophy and turgescence of the mucous membrane during the attack, whilst between attacks the nose, except for deformity and enlarged turbinals, was normal in appearance.

Scarborough.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

The Clinical Aspects of Metastatic Cancer of the Ovary.

A MEETING of this society was held on Oct. 24th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Mr. J. BLAND-SUTTON read a paper on the Clinical Aspects of Secondary (Metastatic) Cancer of the Ovary. He said that the subject of cancer of the ovary had interested him during a quarter of a century; during the whole of that period he entertained the gravest doubt in regard to the existence of primary cancer of the ovary. He was still in doubt concerning it. Observations published during the last eight years had established the fact that solid tumours of the ovary large enough to be perceptible to eye and hand in the hypogastrium, which on microscopic examination exhibited the structure of carcinoma, were nearly always secondary to primary foci of cancer in the breast, gall-bladder, or some part of the gastro-intestinal tract, especially the pylorus and colon. Many large solid tumours of the ovary, unilateral and bilateral, which exhibited the structure peculiar to cancer, and regarded as arising primarily in the ovary, were, in truth, secondary to cancer in some other organ. When patients were submitted to operation for solid ovarian tumours, especially if the tumours were bilateral and accompanied by vomiting and ascites, a careful examination should be made of the abdominal viscera, especially the stomach and sigmoid flexure of the colon. Some pathologists who willingly admitted that the solid cancerous tumours, such as had just been considered, were metastatic, still believed that many cystic ovarian tumours with a cancerous structure were primary. When cancer attacked the stomach, cæcum, or gall-bladder, the cancerous cells permeated the muscular and serous coats in relation with the primary growth and found their way into the general peritoneal cavity. Many of those cells were conveyed by the peritoneal fluid into the recesses of the pelvis and lodged on the ovaries, Fallopian tubes, and uterus. Cells which fell upon the ovaries implanted themselves, grew, replaced the ovarian tissue, and in some instances became large and easily recognisable tumours. From his observations he had come to the conclusion that when the cancerous cells implanted themselves upon a normal ovary the result would be a solid tumour, but it occasionally happened that cancer arose in the gastro-intestinal tract of a woman who had a cystic ovary. In such circumstances the cancerous particles implanted themselves on the wall of the cyst and grew quickly into large and formidable masses. In addition he had to add the Fallopian tube. Primary cancer of the Fallopian tube was a very malignant form of cancer, and the operative treatment of this disease had rarely been followed by enduring success. It was a well-known fact that when the mucous membrane of a Fallopian tube was infected with pathogenic micro-organisms, the changes in the tubal tissues resulting from such infection led to the complete occlusion of the cœlomic ostium of the tube. Some years ago he was able to demonstrate that an occluded ostium occasionally occurred in cancerous Fallopian tubes and that the closure of the mouth of the tube exercised an important influence on the course of the disease. When the ostium of the tube remained open the cancerous particles were poured out cornucopial fashion into the pelvis, and soiled all the adjacent tissues and organs. Nearly all the patients who submitted to operation for the removal of a cancerous tube, in whom the mouth of the tube remained open died with recurrence of the disease within a year. It must not be imagined that the implantation of cancer on the walls of ovarian cysts was an uncommon event. Within a period of 18 months (from March, 1909, to October, 1910) seven examples had come under his observation. The primary foci were distributed among the following organs: stomach, 2; hepatic flexure of colon, 1; sigmoid flexure of colon, 1; uterus, 1; Fallopian tube, 1; and in 1 the primary focus was undetermined. The question naturally arose as to the advisability of operating in many cases of that kind. The same argument applied to operations performed for the relief of cancer in any situation. When patients came under observation with a tumour of the size of a football in the lower half of the abdomen which was interfering with the bladder, the rectum, or both those organs, producing pain and great distress, perhaps accompanied by vomiting, the surgeon was bound to give the patient relief. No surgeon hesitated to perform colotomy in patients with acute intestinal obstruction caused by cancer in the upper part of the rectum. The surgeon would rarely have any difficulty in satisfying his conscience concerning the necessity of an operation, but he would at times be sorely tried when determining how much or how little he should remove. On several occasions he had removed bilateral ovarian cancerous masses and the uterus, and in the same operation removed a cancerous obstruction in the sigmoid flexure and joined the ends by circular enterorrhaphy. In some instances the patients had survived the operation and lived in comfort two or more years. It was more common for death to ensue within a year of such an operation. One of the most striking features in the after-history of patients from whom malignant ovaries had been removed was the rapidity with which the cancer recurred in the pelvis, even in cases where the uterus and pelvic peritoneum seemed free from infection at the time of the operation. When surgeons removed bilateral ovarian tumours which appeared to be malignant, they should carefully examine the gastro-intestinal tract, the gall-bladder, and the Fallopian tubes for evidence of primary cancer. If the disease was in a situation favourable for excision it should be removed; and if there was no obvious evidence of dissemination beyond the pelvic organs, it was a useful proceeding to remove the uterus as well as the ovaries. When the primary disease was too advanced for removal the patient's condition was often made more bearable, if not comfortable, by the removal of the ovarian masses, but it must be borne in mind that in attempting to do that the lives of patients were often shortened. Finally, a prolonged study of the question strengthened the conviction he formed many years ago, that primary carcinoma of the ovary remained unproven.

Dr. BERNARD H. SPILSBURY read a paper on the Pathology of Certain Ovarian Tumours, and in the course of his remarks said that he had encountered malignant metastatic ovarian growths only in very bad cases in which the peritoneal cavity had been flooded with cells.—Dr. F. J. MCCANN said that in the light of recent researches it was the duty of surgeons to examine carefully for a primary cancer in these cases, but it was to be remembered that some of these patients were in a desperate condition.—Mr. J. D. MALCOLM said that so far as solid tumours were concerned he was inclined to agree with Mr. Bland-Sutton.

OPHTHALMOLOGICAL SOCIETY.

Marginal Keratectasia.—Colloid Excrescences of the Membrane of Bruch.—Endothelioma of the Orbit.—Exhibition of Cases.

A MEETING of this society was held on Oct. 20th, Dr. G. A. BERRY, the President, being in the chair.

Mr. GEORGE COATS described the pathological features of a case of Marginal Keratectasia formerly shown to the society by Mr. J. H. Fisher. They consisted essentially in a loss of the superficial lamellæ in the periphery of the cornea, and their replacement by a loose vascular fibrous tissue. The membrane of Descemet had undergone enormous compensatory thickening and showed many ruptures plastered over with new layers of hyalin substance. In one area the epithelium was œdematous and desquamating, either as a result of commencing ulceration or of leakage from the anterior chamber. From a study of recorded cases it was shown that marginal keratectasia is usually the result of "furrow keratitis" (Schmidt Rimpler) or "marginal atrophy of the cornea" (Fuchs), a condition in which, without ulceration, a groove develops in the upper periphery of the cornea, usually between an arcus and the limbus; ectasia, distortion of the cornea, and astigmatism, against the rule, were produced by the giving way of the floor of the groove. As to pathogenesis there were two opinions: (1) that the condition was purely degenerative; and (2) that it was

inflammatory. In favour of the first there was the common absence of injection clinically and of round cell infiltration microscopically, as well as the association with arcus senilis; in favour of the second, the occasional presence of injection and even photophobia, or of pseudopterygium or pterygium, and the fact that vessels crossed the floor of the groove. Actual ulceration was probably excluded by many cases carefully watched over long periods. It was possible that a combination of these two explanations was correct—viz, that the products of degeneration set up a low form of inflammation, or that a low form of inflammation induced degeneration.

Mr. COATS also read a paper on an Unusual Instance of Colloid Excrescences of the Membrane of Bruch. The case was reported chiefly because it afforded an opportunity, rarely obtained, of comparing an ophthalmoscopic appearance with its histological foundation. The patient, aged 58 years, was achondroplasic and had glaucoma in both eyes. V.R. = fingers at 3 feet H. +7 D. V.L. = perception of light. In the right eye the media were fairly clear, and the fundus was strewn in every part with flat, scaly, irregular, white or grey areas, with a slightly wavy surface, and with distinct glitter on moving the light. The borders were sinuous and rimmed with pigment; pigmentation also occurred on the surface, especially towards the periphery. The choroid generally was degenerate. In the left eye there was a detachment of the retina; this eye was subsequently excised. Pathological examination showed that the areas were due to an aberrant type of colloid excrescence of the membrane of Bruch. In addition to the ordinary rounded forms, flakes and irregular spongeworks of colloid material were found. The choroid was very degenerate, and showed evidence of the former presence of a flat detachment. All the measurements of the globe were notably small, and in other respects a degree of infantilism was suggested. The relationship of these conditions with the glaucoma was discussed. The glaucoma itself was peculiar in that there was no adhesion of the corneo-iridic angle, and so far as could be seen no hindrance to drainage. It was suggested that the rise of tension might be due simply to a disproportion between the secretion and the amount of drainage available—normal so far as it went, but insufficient. The other eye, however, though glaucomatous, was not unduly small, at least in its external measurements. Another possibility was that the iris root had been in apposition with the ligamentum pectinatum, but not adherent, and had come away in the fixing fluids. Or there may have been an alteration in the chemical nature of the fluid to be drained. The pathology of glaucoma with open corneo iridic angle was also discussed.—The papers were commented on by Mr. E. TREACHER COLLINS, Dr. C. MARKUS, and Mr. J. HERBERT FISHER.

Mr. LESLIE J. PATON communicated the later history of a case of Endothelioma of the Orbit. The growth was removed, but as it recurred locally the orbit had to be eviscerated, and the lymphatics leading down to an affected gland excised. Subsequently there was further invasion of glands in the anterior triangle; and when these were removed a further involvement took place above the clavicle and in the axilla. The patient ultimately died from a very large intrathoracic development. The growth was stated to be pathologically a simple endothelioma.

The following cases were shown:—

Dr. MARKUS: A case of Peripheral and Central Bulging of the Cornea; also a case which presented Unilateral Retraction of the Upper Lid and von Graefe's Sign.

Mr. C. S. BLAIR: A case of Endothelioma of the Lacrymal Gland.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Sleeping Sickness.

A MEETING of this society was held on Oct. 21st, Professor RONALD ROSS being in the chair.

Dr. ARTHUR W. G. BAGSHAWE read a paper on Recent Advances in Our Knowledge of Sleeping Sickness. He said in regard to etiology that an important piece of negative evidence had come to hand. The islands of Principé and San Thomé were a few miles apart in the Gulf of Guinea. They had a similar population, similar vegetation, the same climate. Principé contained tsetse flies, San Thomé did not. On Principé there was much sleeping sickness; of nearly 2000 persons examined by the Portuguese Commission 23·5 per cent. were found to be infected. On San Thomé, though three months were spent there, the members of the Commission were unable to find a single case; and that was not due to want of opportunity, for cases of sleeping sickness were frequently imported into each island. On San Thomé, moreover, they found all the blood-sucking insects which they had seen on Principé, with one exception, the genus Glossina. That was to his mind presumptive evidence that in nature transmission of sleeping sickness occurred only exceptionally, if at all, in the absence of tsetse-flies. It confirmed the old observations in the West Indies and on the American continent, and supported the belief that sleeping sickness would never spread in a country where there were no tsetse-flies. Could they still adhere to the belief that among the tsetses the species palpalis was the only carrier? Until quite recently it appeared that they could. Unfortunately, in Northern Rhodesia and Nyasaland sleeping sickness had in several cases, European as well as native, been there contracted, and they were practically certain that Nyasaland, if not the Zambesi and its tributaries, was outside the area of distribution of Glossina palpalis. That suggested that another species of tsetse-fly might be capable of acting as carrier. But if sleeping sickness was really being diffused in Rhodesia by tsetse-flies other than palpalis, why had the disease not spread in East Africa by the agency of Glossina pallidipes and fusca, or on the high ground in the Katanga by that of Glossina morsitans? He suggested as a provisional hypothesis that it was because on those uplands the air was too cool and too dry to admit of the parasite completing its development in the body of the insect. To the suggestion that Glossina morsitans might be responsible for those infections it might be objected that the cases were few and scattered, whereas the disease should spread rapidly in places where a carrier was so abundant and so bloodthirsty, but it was very surprising to notice, even in the case of Glossina palpalis, the slow rate at which the disease spread in the most favourable circumstances. Since Kleine opened a new road to investigators by showing that tsetse-flies could, after a latent interval, be permanently infected with pathogenic trypanosomes, their knowledge of the subject had grown, but it could not be said that it had reached finality. That such late development was the rule in the insects which transmitted trypanosomes from mammal to mammal seemed probable. When the development of the trypanosome in the fly was discovered the non-infective interval appeared to be a definite fixed period. A long series of experiments carried out by the Sleeping Sickness Commission seemed to demonstrate that it might be very variable. They were still in the dark as to what went on in the insect during the non-infective period. The fact that the trypanosomes in the alimentary canal were infective went to show that there was no invasion of the body fluids and afterwards of the salivary glands. There was no evidence that Trypanosoma gambiense was infective to the tsetse-fly at any one stage of its life-history more than another. No observer had obtained any evidence of germinal infection. There seemed to be no such thing as hereditary transmission in the fly of those trypanosomes which were pathogenic to mammals. Perhaps the most striking discovery was that of Bruce and his colleagues in Uganda, that the flies caught on the shore of the Victoria Nyanza, cleared of inhabitants for some two years, were able to infect monkeys with sleeping sickness. Administrators had nursed the hope that the flies, compelled to feed on the lake shore vertebrates rather than man, would soon lose their infectivity, and then it would be possible, they supposed, to plant the same or a different population on the shore without risk. That would, in any case, have been a dangerous step in view of the difficulty of discovering infected persons, but now the idea must be quite given up. If it were definitely proved that wild animals formed a reservoir of the sleeping sickness virus, it was plain that all places where such animals and the sleeping sickness fly coexisted would be uninhabitable by man till the circle was broken by the extermination of either the vertebrate or the invertebrate host. Though no cases of infection by sexual coitus had been recently reported, experimental work suggested that it might occur. In regard to diagnosis more observations had been recorded on auto-agglutination, but they did not yet know the cause of

the phenomenon. Todd found that it was at its maximum just after trypanosomes had been numerous in the blood; if that were generally so, the curve of auto-agglutination might follow that of periodicity. Todd had published a table showing the proportion of cases in which trypanosomes and auto-agglutination respectively were found in 1406 persons examined on a single occasion in the Congo State. It showed that, while auto-agglutination might be absent when trypanosomes were present, of cases in which the corpuscles clumped a large proportion harboured trypanosomes; thus when agglutination was present 183 persons had trypanosomes and 212 had not; when it was absent, the figures were 24 and 987. The association of that phenomenon and trypanosome infection in man was thus well shown. It remained, therefore, true that well-marked clumping of the red corpuscles in a person who had visited or resided in an infected area was a phenomenon which should lead the observer to make repeated search for trypanosomes. The discovery of the trypanosome in one or other of the body fluids remained the only certain means of unmasking a trypanosome infection. Concerning the symptoms, an analysis in 50 published cases of sleeping sickness in Europeans showed that the most frequently recorded were, in descending order: fever, erythema, loss of strength, increased frequency of heart beat, somnolence, œdema, large spleen, anæmia, headache, and epileptiform convulsions. In the last 12 months no new trypanocide had come into use for treatment unless it were aniline antimonyl tartrate. They had learned little more as to the use of arsanilates such as atoxyl and soamin. Arseno-phenylglycin promised to be superior to either, but the data were as yet incomplete. The most favourable reports of the drug came from Togoland, where in Dr. von Raven's hands the results were good. It must be premised, however, that sleeping sickness in Togoland seemed more amenable to trypanocides than sleeping sickness on the other side of the continent. In German East Africa Eckard had much less success, but as he did not give the drug in the right way they might disregard his results. Von Raven had followed the method insisted on by Ehrlich of giving one or two large doses and no more. Ehrlich had pointed out the advantage of getting in the trypanocide when parasites were numerous in the blood. The theory was that some killed at once produced by their death antibodies, and to those the remainder succumbed. Tryparosan, introduced by Ehrlich, was a drug which promised to be of service. Broden and Rodhain tried it both intravenously and by mouth; the latter method was the more effective. Aniline antimonyl tartrate had been used with some apparent success by Thiroux, who found it more effective and less toxic than the potassium salt. None of the trypanocides at present in use could be relied on to banish the parasites from the cerebro-spinal fluid. Time had only emphasised the inefficacy of any treatment in advanced cases; life might be prolonged, but ultimate recovery could not be hoped for. They had now many years' experience of the disease in Europeans, and a study of the published cases led to the belief that recoveries almost certainly occurred, and, if the nature of the disease were recognised early enough, might be not infrequent. That opinion was shared by authorities such as Todd, Broden, and L. Martin and Darré. It was, of course, open to anyone to say now or five years hence that persons who had apparently recovered might relapse. When, however, they had a case such as that of the patient whose disease was diagnosed in 1903, and certainly existed in 1900, and who had now been in vigorous health for years, they were, he thought, justified in believing that the recovery was real. At present, unfortunately, they had no certain test of cure. Even susceptible animals might fail to be infected when trypanosomes were scarce. Of 30 Europeans who had died from the disease only two survived more than three years from the discovery of trypanosomes. That tended to show that patients who had survived more than three years, and were free from symptoms, had a chance of recovery. The human tissues tended to get the better of that as of all parasites. Five Europeans who had lived from 4¼ to 7½ years since trypanosomes were found in them were in June of this year in excellent health. As far as could be ascertained 3, 3½, 3½, 5½, and 7 years had passed since symptoms were observed. What share chemo-therapy had had in the restoration to health of those Europeans it was difficult to say; the treatment which many had was both short and simple. It was possible that their infections were mild and that they would have recovered without the use of drugs, never reaching the advanced stage. The broad principles of prophylaxis had been known since the discovery that glossina palpalis transmitted the disease. They consisted either in the removal of natives, infected or not infected, from the areas haunted by the fly, or in the destruction or banishment of the fly itself. Obviously the latter was the true prophylaxis, and if it should prove that wild animals harboured the virus, it was to measures directed against the fly that they must look more and more. The only certain way at present known of getting rid of tsetse flies was clearing—i.e., removing the vegetation which sheltered them and afforded opportunities for breeding. Recent work on drug prophylaxis suggested that some efficient preventive might be found in that direction. Morgenroth and Halberstaedter had been studying the action of quinine when injected into mice simultaneously with the virus of nagana. They found that when the mice were fed on quinine for a few days before the inoculation and the medication was continued afterwards no infection occurred. They had not yet found how long it was necessary to continue the quinine feeding. If the quinine was introduced under the skin it merely delayed the infection; if into the peritoneum it had no effect at all. The method should be tried with larger animals, for the mouse, owing partly to the large quantities of trypanocides it would bear, was the most easy of all mammals to treat. He was not aware of any attempts to administer trypanocidal drugs to monkeys and other susceptible animals while they were being subjected to the bites of infected flies. That surely was a promising line of research. In regard to South American trypanosomiasis, though the form of human trypanosomiasis discovered by Chagas in Brazil differed in many respects from the African disease, it deserved a short mention. It was briefly described in April of last year, but few details were available till the beginning of 1910. The parasite differed from that of sleeping sickness in two particulars; instead of multiplying by longitudinal fission in the peripheral blood it split up into eight merozoites within its limiting membrane in the lung capillaries, and, though that seemed less certain, it spent part of its life in the red corpuscle. In consequence of its mode of multiplication it had been named by Chagas schizotrypanum. The symptoms produced in man were similar to those of sleeping sickness, but there was no mention of lethargy or somnolence; the clinical records were at present scanty. The transmitting agent was a bug which sucked blood at night. It was the true host, for after feeding on an infected man or animal it was not capable of infecting another till eight days had passed, but after that remained infective for an indefinite period. Chagas believed that the forms which were to infect the new vertebrate left the alimentary canal and appeared in the body cavity, eventually reaching the salivary glands. At any rate, there seemed little doubt that trypanosome forms did appear in the body fluids. Chagas expressed the belief that only bugs which had flagellates in their salivary glands were infective, but he had brought no experimental proof; against that belief was the fact that he infected many animals by the introduction of fluid from the bug's intestine. From the result of his transmission experiments with different species of animals he concluded that the forms capable of infecting the bug developed only in certain animals; he instanced a South American monkey and man. He could not infect bugs from infected guinea-pigs. No observations besides those of Chagas had been published.

UNITED SERVICES MEDICAL SOCIETY.

Presidential Address.—Discussion on "Soldier's Heart."

A MEETING of this society was held at the Royal Army Medical College on Oct. 12th, Colonel Sir DAVID BRUCE, C.B., F.R.S., the President, being in the chair.

The PRESIDENT in addressing the members at the opening of the new session said: The subjects which may be brought before this society are, of course, very varied, including surgery, medicine, hygiene, organisation, and administration, on sea and land, during peace and war, at home and abroad, and it is therefore difficult, perhaps, to find a sufficient audience of medical officers interested in every paper which may be brought before this society. The other medical societies in London are more differentiated,

and therefore feel this difficulty less. But it must be borne in mind that it is not our business to become specialists to the exclusion of the other branches of our profession. We may be called upon at any moment to do the work of the oculist, laparotomist, bacteriologist, physicist, chemical analyst, &c., and in places where there are no experts to call in to our aid and often not even a book to consult. At the beginning of the siege of Ladysmith the first thing I was called on to do was to sew up several holes in a small intestine which had been wounded by an accidental revolver shot. When I look back on the same siege I see many things in the light of experience which could have been done better. For example, at that time we did not know so much about the breeding of flies as we do now. With our present knowledge I am sure we could have prevented to a great extent the truly Egyptian plague of flies which occurred and the consequent increase in the spread of enteric fever. In addition to being a surgeon and entomologist, it was very necessary to be a sanitary specialist, as the water-supply and the disposal of refuse in Ladysmith were also difficult to cope with. These arguments are brought forward to induce every naval, army, and territorial officer of the medical services within reach to attend our meetings. However interested they may be in some special subject, they will perhaps hear something, or see something demonstrated here, which will be of supreme advantage to them on some future occasion. Now what are the subjects which are most important at present to us as service men? In the front rank still stand enteric fever and dysentery. If anything could be done to enable the soldier to escape these diseases in time of war a very great advance would be made. In times of peace, in barracks and camps, doubtless the mode of fighting typhoid fever and dysentery by means of ordinary sanitary methods is the sound one. But on active service in the field it does not seem possible to keep them altogether in hand by these means, and some other method must be added. For my own part, I have always looked to some process of artificial immunisation as the most probable way to reach the wished-for result. If the soldier could be made completely immune to enteric fever and dysentery, even for only six months, the problem would be solved. Antityphoid inoculation was in vogue during the last South African war, but it proved useless. Since then the method has been improved by Leishmann, and the substantial lowering of the case-incidence is very gratifying, but whether this artificially induced immunity will stand the strain of active service remains to be proved. Malaria is another important malady affecting soldiers, and in spite of the epoch-making discoveries of Laveran and Ross little seems to be done in India and the colonies to prevent its ravages. Lately, it is true, a conference on malaria has been held at Simla, and something may now be done, but it is 30 years since Laveran discovered the cause of malaria, 12 since Ross discovered the mode of spread, and the same length of time since Koch demonstrated the use of quinine as a means of prevention. *Festina lente.* Plague is beginning to lose its terrors, as has been the case with cholera, now that its mode of conveyance by means of the rat-flea has been established and means of preventing it made possible. The work done under the direction of the Lister Institute by Lamb, Liston, and others of the Indian Medical Service is most illuminating and worthy of all praise. Sand-fly fever, although non-fatal and of short duration, also causes much sickness in many parts of the world, and has been the subject of investigation during the last two years by Birt and Marett. The interesting discovery that while in the larval stage the sand-fly depends for nourishment on the droppings of the wood-louse may open some way of prevention. The so-called seven-days' fever described by Rogers and Clayton is also of interest to the Navy and Army, but more work will require to be done before its true nature and mode of spread are established. In surgery there are numerous important questions, such as anæsthetics and antiseptics on active service, and many others. The effects of the spirochæta pallida and the gonococcus are still far too marked on our sailors and soldiers. A great deal could be done in the way of prevention if more determined efforts were made on the part of the military authorities and medical officers. The treatment of these diseases has progressed of late years, and there seems some likelihood of further improvement in this direction in the future. On the hygienic side of our work there are, of course, many of the most important subjects affecting the sailor and soldier. I have been struck lately by the discovery that beri-beri is due to the polishing of rice, by which it loses the greater part of its nourishing power. It might be worth investigating, if it has not already been done, as to how much of the nourishing power is taken from wheat by like processes. Then, again, there are questions of tinned foods and their effect on health. Why did so many of us suffer from jaundice in the South African war? How best to filter water in the field, the question of clothing, and the best mode of carrying kit, should the soldier's boot approach more to the natural shape of the human foot than it does now, or is the present shape satisfactory? The question of physical training of the soldier is also most important, and its effect on the soldier's heart. Medical organisation for war is completely altered. Questions coming under this heading are naturally of supreme importance to service officers. The Territorial Medical Force has been lately established in a much more serious fashion than the old Volunteer Force, and the organisation of voluntary aid societies has been put on a definite footing. We hope to have papers by Territorial officers on the special difficulties which affect their service. These and many other subjects ought to employ the energy and time of this society. Much has been done, but much more requires to be done. What is wanted is work, intelligent persevering work, as in my way of thinking Nature may be looked on as something ductile, which is capable of being moulded into any shape or form by the worker who is not discouraged by failure—

> "but strong in will
> To strive, to seek, to find,
> And not to yield."

Lieutenant-Colonel R. J. S. SIMPSON, C.M.G., R.A.M.C., and Dr. M. S. PEMBREY opened a discussion on "Soldier's Heart." Lieutenant-Colonel SIMPSON presented statistics which showed that the incidence of both valvular and functional disease of the heart attained its maximum in the third year of service, and that in spite of improvements in the physical training of soldiers the incidence was the same now as in 1890. The clinical features of disordered action of the heart were, in addition to increased rapidity in the pulse-rate, blue cold hands, defective muscular development, a low skin temperature, increase of the knee-jerks, and a generally increased muscular irritability. The blood pressure was high, ranging about 140 mm. Hg. As to treatment, he thought it a great mistake to put the patient to bed or to pay too much attention to the cardiac condition. At Woolwich they were kept employed in the garden, with great advantage; but he was of opinion that "disordered action of the heart" quite unfitted a man for soldiering. He suggested the possibility that the disease arose in persons with a congenital defect of their muscular system.—Dr. PEMBREY gave an outline of the mechanism regulating the heart beats. He agreed with Deane that there was no normal pulse-rate, but that each man had a pulse-rate peculiar to himself. The maximum incidence of cardiac disabilities in the third year of service showed that there must be something in a soldier's life which tended to the production of heart diseases. Soldiers at work were under a disadvantage as compared with civilians, since they worked heavily clothed and with a pack; the consequent rise of temperature and the dilatation of the cutaneous vessels threw a strain on the heart. Alcohol and smoking were factors common to civilians and soldiers, but he thought that those officers were right who did not permit smoking on the march. He suggested that the sharp tone in which orders were given might have an influence, since the necessary instantaneous response caused an increase in the pulse-rate; this had been shown by experiments on firemen. He agreed with Lieutenant-Colonel Simpson about the bad effects of bed on such cases, but did not agree that they should be invalided.—Dr. JAMES MACKENZIE asked whether men were admitted to hospital or rejected for service because they had a murmur or because they broke down. Many healthy hearts did show murmurs and he thought the rejection of recruits for a murmur alone was a mistake.—Surgeon-General A. M. BRANFOOT, C.I.E., I.M.S. (retired), attributed disordered action of the heart to cigarette smoking.—Dr. BYRES MOIR asked whether anyone had noted a connexion between tall men and disordered action of the heart. He thought small men were likely to make better soldiers, so far as the heart was concerned. An abnormally slow pulse was bad; such cases were

liable to syncope.—Lieutenant-Colonel H. E. DEANE, R.A.M.C. (retired), said he no longer believed that the position of attention had anything to do with soldier's heart nor over-training, since the men affected were soft, flabby men. Swedish exercises were no better than any other. He thought that clothing might have something to do with the causation.—Lieutenant-Colonel C. H. MELVILLE, R.A.M.C., suggested that the apparent increase in heart diseases in the third year of service might be attributed to the rejection of men coming up for foreign service. He attributed soldier's heart to the over-exercise of recruits before they were properly fed, and suggested that recruits should be fed up for a month before any serious work was given them. It was necessary to reject men with heart murmurs, since one could not separate injurious from harmless murmurs in a recruiting station.—Major W. S. HARRISON, R.A.M.C., referred to the work of Davy in 1876. Davy attributed soldier's heart to the compulsory position of "attention" which, as he pointed out, was accompanied by a habitual semi-expansion of the chest and loss of action of the respiratory pump. Lieutenant Hayes had done some experiments for Major Harrison, counting the pulses of men "standing easy" (in which position it was impossible to expand the chest in the soldier's habitual manner) and after five minutes' standing at "attention." In 29 observations there was an average increase of 7·5 beats in the pulse-rate after standing at "attention," the maximum increase being 20 beats, while in only 3 instances of the 29 was there no increase in the pulse-rate. Major Harrison also referred to a personal experiment, where he found that his pulse-rate was increased by 15 beats when he put on a tight jacket.—Fleet-Surgeon W. E. HOME, R N., thought that marines suffered more from heart troubles than bluejackets, and attributed the difference to the better feeding of the latter.—The PRESIDENT said that the diagnosis of valvular or functional disease of the heart in the Army was often a matter of personal equation in the observer. He related a personal observation when shooting on a very hot day; whilst he was wearing his coat he was much oppressed, but when he removed his coat he was able to shoot for the rest of the day in comfort. He suggested that the proper way to solve the etiological problem was by means of a series of well-conducted experiments.—Lieutenant-Colonel SIMPSON and Dr. PEMBREY then replied.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Liverpool on Oct. 21st, Dr. W. K. Walls, the President, being in the chair.—Dr. H. Leith Murray, Dr. R. Stenhouse Williams, and Dr. A. J. Wallace (Liverpool) communicated a paper on the Incidence, Characters, and Significance of Bacillus Coli in the Urine of Gynæcological Patients Before and After Operation. They found it present in 44·5 per cent. of normal urines examined before operation, and 93 per cent. after operation. The type in every instance was the B. coli verus of MacConkey, but agglutinative differences were readily made out. There appeared to be no relation between post-operative temperatures and the presence of the bacillus. The suggestion was made that, in inflammatory conditions, the bacillus in question may, more often than is thought, be a secondary infection.—Dr. Wallace showed an Unusual Specimen of great interest. The uterus was enlarged to the size of the six months gravid organ by the collection within it of several pints of dark, chocolate-coloured fluid. It was removed from a married woman, aged 67 years, who had passed the menopause 17 years previously. There was no new growth of the uterus to explain the condition. The history was of only three months' duration, and the signs and symptoms had led to the diagnosis of a malignant ovarian cystoma. Operation disclosed a dark-red, angry-looking uterine enlargement, which was thought to be due to a rapidly-growing sarcoma. Total hysterectomy was performed with fatal result (shock). The walls of the uterus were composed of fibro-muscular tissue, varying from three-eighths to one inch in thickness and without trace of lining endometrium or epithelium.—Mr. R. Favell (Sheffield) reported a case of Cæsarean Section for Concealed Accidental Hæmorrhage. The patient, a primigravida, aged 24, had been seized with acute abdominal pain and collapse the day before admission. She was seven months pregnant. On admission she was very pale and collapsed; pulse rate, 120; respirations, 40; marked œdema of the legs and face. The uterus was unduly enlarged, tense, and tender. The os was closed and the cervix not taken up. There was a little vaginal bleeding. There was only a drachm of urine in the bladder and that was loaded with albumin. Cæsarean section was at once performed. The uterine wall was of a mottled purple colour. More than two pounds of blood-clot was found in the uterus. The fœtus, well developed for seven months, was dead. There was no post-partum hæmorrhage. In spite of saline injections and other diuretic measures, anuria and uræmic coma ensued. Death occurred on the fourth day.—Dr. T. B. Grimsdale (Liverpool) recounted a case of Full-term Ectopic Pregnancy and showed the decomposing macerated fœtus which he had removed from the abdominal cavity. The patient, aged 24 years, had borne one child five years previously. There had been amenorrhœa for two years and an abdominal swelling for a few months less. Fifteen months previously she had had slight abdominal pain for two days; this was not accompanied by vaginal bleeding. Afterwards the abdominal swelling seemed to get smaller. Eight months later pain again occurred for a short time. For a month before admission to hospital she had had constant abdominal pain, and had been getting thinner and experiencing night sweats. Consideration of the history and the physical condition led to a correct diagnosis. The sac was intra-ligamentous; it contained a quantity of offensive gas as well as the stinking fœtus. The placenta was not seen. The sac was sutured to the abdominal wall and packed with gauze. Four months elapsed before it was closed and the wound healed.—Specimens were exhibited by Dr. D. Lloyd Roberts (Manchester), a Uterus showing Subserous Fibroids (calcified), Fibroid Polypus, and Cancer of Cervix; and by Dr. A. Donald (Manchester), (1) Infected Fibroid of Uterus; and (2) Cancer of Corpus Uteri.

Reviews and Notices of Books.

The Ear and Its Diseases. By ALBERT A. GRAY, M.D. Glasg. With stereoscope and 123 illustrations, of which 37 are stereoscopic. London: Baillière, Tindall, and Cox. 1910. Pp. 388. Price 12*s.* 6*d.* net.

COMING as it does from the pen of the scientific man whose researches upon the labyrinth have gained for him the blue ribbon of international otology, Dr. Gray's book naturally awakens many anticipations, and we may at once say that, in our opinion, these are favourably realised. Fertility of idea and suggestion combine with moderation and lucidity of expression to render the book one of the most important productions in recent otology. We are constrained to sound this high note of praise, not because we are at one with the author in all or most of his opinions, but chiefly because of the peculiarly stimulating quality of his writing.

Dr. Gray is well equipped for his task of expositor, and he does not spare pains. Upon the problems of acoustics and physiology he brings to bear a mind trained in the schools of physics and mathematics, while a wide clinical experience and lively critical acumen render his opinion upon such subjects as the indications for operation in aural suppuration worthy of the most weighty consideration.

The chapters upon anatomy and physiology are characterised by both depth and clearness. The researches and theories of the older workers are accurately, if briefly, detailed, and the results of the author's own investigations, many of which already occupy an honoured place in the history of otology, are imparted with becoming prudence and restraint. As illustrative of the suggestiveness of the comments in this section we may refer our readers to the remarks upon the powers of orientation manifested by certain animals, and upon the variable nature of sensory stimuli.

The section on general semeiology is remarkable for an effort to rehabilitate paracusis Willisii as a reliable guide to "the position and nature" of certain pathological conditions.

Whether or not this effort will succeed remains to be seen; but whatever the outcome may be, as a feat of speculative reasoning it certainly compels admiration. In this chapter also the author's theory upon the production of tinnitus is one which will create much interest even if it also may evoke some criticism. The pathogenesis of otosclerosis is another subject to which Dr. Gray has devoted much work and thought, and we believe that we express the general opinion when we say that at the present time his views hold the field to the exclusion of all others.

Apart from the author's views upon the vexed questions of otology—naturally the most attractive feature of his book to the philosophical mind—the volume will be found to be an eminently readable and practical guide to diseases of the ear, which we can confidently recommend to the beginner no less than to the expert. Our notice would be incomplete did we fail to call attention to the excellence of the illustrations.

Medical Supervision in Schools. By EDWARD M. STEVEN, M.B., Ch.M. Edin., Royal Commissioner for South Australia, 1909. London: Baillière, Tindall, and Cox. Pp. 268. Price 5*s.* net.

Dr. Steven's book represents a part of the result of his tour in Great Britain, Canada, the United States, Germany, and Switzerland as commissioner to inquire into medical inspection and allied subjects on behalf of the Government of South Australia. The volume describes the special systems in force and the special methods used in Great Britain, on the Continent, and in America, and will be useful as enabling the school doctor in one place to compare the detail of his procedure with that of a colleague on the other side of the globe. These comparisons cannot fail to be fruitful, and are made much more vivid by the provision of some 40 good photographic illustrations of all kinds of details—from school nursing to school baths—in various parts of the world. Dr. Steven's method brings out some piquant divergences of opinion, as when he quotes the diatribe of Dr. Sheard of Toronto against medical inspection of school children, which is described "as a pure fad, instituted principally by women and agitators ..... who desire easy billets for their friends, with good pay and little work." Dr. Sheard can hardly be dealing with conditions analogous to those existent in other and larger urban centres, and it is conceivable that he does not know what all those conditions are.

There are also interesting divergences of fact in the various chapters which make suggestive reading. Thus it is known that the percentage of phthisis among London school children is very low, whereas Dr. Steven informs us, from the information he has collected, that in New York "cases of incipient phthisis are innumerable." This applies apparently chiefly to the Italian population. An isolated observation made in this section is also of some interest; it is a note on "the lack of care exercised by the average American general practitioner in regard to his personal appearance. It is no uncommon circumstance to meet the average school medical officer in no better habiliment than a third-rate London clerk." Dr. Steven mentions also a beard "of three days' growth, greasy clothes, and sometimes a quid of tobacco in his cheek." Fortunately, this observation (which might perhaps have been made in other countries also) does not prevent Dr. Steven saying of medical inspection in New York that "the authorities can well command the admiration and esteem of all nations throughout the civilised world for their honesty of purpose," and "their extreme desire and unswerving endeavour to protect their children." It is unfortunate that this does not prevent the terrible overcrowding in the tenements and the high rate of incidence and mortality of phthisis, matters upon which we have commented recently in THE LANCET.

One of the most interesting sections of the book is that dealing with Germany and Switzerland. Here we are told the details of examination and treatment in Cologne, Charlottenburg, Munich, Frankfort on the Main, Wiesbaden, Strasburg, and Zürich. It is with regard to treatment in the special school clinics that German experience is particularly valuable just now, and the detailed descriptions of the dental clinics at Strasburg and at Cologne are very useful for comparative purposes. Dental clinics also exist at Wiesbaden and Zürich. At Wiesbaden the question of the treatment of school children, apart from teeth, has been temporarily solved by the establishment of a voluntary clinic by six consultants who give their services free, the rent of the building being paid by the town.

Zürich devotes a good deal of attention to stutterers and issues long printed instructions for use at home and for treatment at school. To Charlottenburg belongs the honour of having established the first "open-air school" (although the medical officer, Dr. Neufert, prefers to call it "forest school"), and the seventeenth chapter contains a useful description of the buildings and organisation. In one matter Germany is notably in advance of this country and that is in the provision of school baths. Dr. Steven sums up his impressions of this detail of school life in his penultimate chapter and gives some good diagrams and sketches of baths in Wiesbaden, Frankfort, Munich, and Cologne.

We are so much in the habit of hearing of the German superiority in school matters that it is rather remarkable to learn from Dr. Steven of the impression made upon him by the poverty of Germany. Dr. Steven says it "must be distinctly understood that the latter [Wiesbaden] is by no means the only place in Germany where this is particularly noticeable," and goes on: "Much more distress, in the shape of abject poverty, as evinced by the pinched faces, eager, hungry expressions, and sparkling eyes, exists in enlightened Germany than in most civilised countries." The observation suggests itself that it may have been the existence of this urgent poverty which quickened and stimulated the application of medical inspection and medical treatment in Germany.

Dr. Steven's book may be recommended to the school doctor and the educationist as an interesting and useful record of the actual organisation and methods in use in the different places described, and will serve a good purpose as a source from which further suggestions for organisation may be drawn.

Die Operative Geburtshilfe der Praxis und Klinik. (*The Operative Midwifery of Practice and of the Clinique.*) Von Dr. HERMANN FEHLING, Ord. Professor der Geburtshilfe und Gynaekologie zu Strassburg. With 77 illustrations. Wiesbaden: J. F. Bergmann. 1909. Pp. 190. Price 4*s.*

THE object of this work is to afford the general practitioner a *résumé* of the advances which have been made of recent years in the practice of operative midwifery. As Professor Fehling points out, the busy practitioner has neither the time nor the knowledge needed to enable him to determine what is good and what is bad practice with regard to the new methods which are introduced from time to time, and it is most important that he should recognise clearly the class of operation which he is justified in undertaking himself and that for which the patient should be entrusted to the care of a specialist or sent into a properly equipped hospital or home.

The book is concerned solely with the various operative procedures of midwifery and is divided into some 20 sections. In the description of the extraction of the after-coming head in a flattened pelvis the author recommends in cases of difficulty the use of Walcher's position.

The illustration, however, in which the two assistants are holding the legs of the patient, hardly gives a true representation of this position, since it is essential that the patient's legs should be allowed to hang freely if any real increase in the conjugate diameter is to be obtained. In a later chapter a more correct drawing of the proper attitude is given, with the patient represented as hanging with the legs free over the end of a special elevated plane. The question as to the correct foot to seize in the performance of internal version is always a matter upon which there may be a legitimate difference of opinion, but we think that in the figure given of internal version with a dorso-anterior position of the shoulder the representation of the introduction of the right hand, the patient lying on her back, is a mistake, and the use of the left hand with its palmar aspect corresponding to the abdomen of the child would be more convenient and more correct. It is interesting to note that while Sir James Simpson taught that it was best to seize the leg of the opposite side of the body to the presenting shoulder, most foreign obstetricians rightly recommend seizing the lower leg—namely, that corresponding to the presenting shoulder. That this is the correct method of performing version as well as the easiest has been demonstrated conclusively by Galabin, who has pointed out that the force applied to the lower leg acts at a greater mechanical advantage, producing rotation in one plane, than traction applied to the upper leg, which produces a combined rotation of the trunk of the fœtus about a transverse and a longitudinal axis, so as to bring into the os the opposite pole to the shoulder originally presenting.

The figure of Tarnier's forceps given is that of a very poor pattern of axis-traction forceps, a matter in which the English school of obstetricians appears to have a distinct advantage over most others if we may judge by the axis-traction forceps figured in many foreign text-books of midwifery. We notice, too, that the author apparently recommends a very inferior pattern of Levret's perforator, and, like most German obstetricians, prefers the blunt hook for decapitation, a preference which personally we can never understand, converting, as it does, a comparatively easy operation into a difficult one. The treatment of cases of ruptured uterus is another matter upon which there are many differences of opinion, but we are surprised to find Professor Fehling recommending that in cases of rupture where the child has escaped partly into the abdomen, it should be extracted if possible through the rent by the feet rather than that abdominal section should be performed.

The book will prove useful, no doubt, to those for whom it is written.

Surgical Diagnosis. By EDWARD MARTIN, M.D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with 445 engravings and 18 plates in colours and monochrome. London: Henry Kimpton. Glasgow: Alexander Stenhouse. 1910. Pp. 772. Price 28*s.* net.

ON the accuracy of the diagnosis depends mainly the success of the treatment, and it is in diagnosis that more mistakes are made than in treatment itself. It is, however, far easier to teach the student the correct treatment to be adopted for various conditions than it is to make him capable of distinguishing those conditions each from the other. It is only in the out-patient room and in the wards that diagnosis can really be learned, but great assistance can be rendered to the student by suitable books. It is not possible by books alone to teach diagnosis, but judiciously used books are of real value, for they will remind the student in what direction he should search for symptoms or signs, and they will enable him to estimate the relative value of the various indications supplied by the case.

The first chapter on the laboratory diagnosis has been written by Dr. W. T. Longcope, and it is useful so far as it goes, but considering the important position that has now been assumed by laboratory methods of diagnosis, we consider that fuller treatment would have been of greater value. It is of little use merely to say, "To estimate the coagulation power of the blood Wright's tubes may be used, but the new instrument devised by Boggs is much simpler in application and probably more accurate," without a word as to the nature of these instruments. We may, however, refer with approval to the excellent plates which illustrate this chapter. Dr. H. K. Pancoast has supplied a useful, if brief, chapter on the applications of the X rays to surgical diagnosis.

In succeeding chapters various systems of the body are taken in order, such as the bones, the joints, and the bursæ, and their most common lesions are briefly referred to. A chapter then follows on diseases of the nervous system written by Dr. T. H. Weisenburg. This is illustrated by some useful plates showing the innervation of the skin and the relation of various nerve trunks to the spinal nerves. The diagnosis of injuries and diseases of the nervous system, always so puzzling to even experienced observers, is here made fairly simple, and the teaching of the book should be of real service in clinical work. The other chapters deal with various regions of the body: one treats of the head, face, and neck; another of the spinal column, and so on.

The whole book is very extensively illustrated, the majority of the illustrations being reproduced from photographs of typical lesions. Although theoretically a reproduction from a photograph is more likely to give an accurate representation of the condition present, it must not be forgotten that the lighting of many photographs is inexpertly managed, with the result that a photographic reproduction such as that of a goitre on p. 328 may be practically of no value, for it is impossible to see that any swelling is present. But the outline drawings illustrating the injuries to the bones in the neighbourhood of the joints are excellent.

When the difficulty of writing a book of diagnosis is considered, we think it may be said that Professor Martin and his coadjutors have attained a high degree of success in their endeavour. Used sensibly the manual will afford the student much assistance in diagnosis.

Lehrbuch der Speziellen Pathologischen Anatomie für Studierende und Aerzte. (Text-book of Special Pathological Anatomy for Students and Practitioners.) Von Dr. EDUARD KAUFMANN, Ord. Professor der Allgemeinen Pathologie, und Pathologischen Anatomie; Direktor des Pathologischen Instituts der Universität Göttingen. Fifth revised and enlarged edition. With 636 illustrations. Berlin: Georg Reimer. 1909. Pp. 1383. Price, paper cover, M. 23; bound, M. 25.50.

THE appearance of a fifth edition of Professor Kaufmann's text-book is good evidence of its popularity in his own country, and from our examination of its scope and nature it deserves the reputation it has achieved. It gives an exhaustive account of the morbid conditions met with in the various systems and organs of the body, including their macroscopic and microscopic appearances, so that it is more than a mere catalogue of morbid anatomical changes in the organs. To each section is prefixed a brief description of the anatomy and development of the organ with which it is concerned. The various malformations, inflammatory changes, new growths, parasites, and other abnormalities are then described at some length, and, where necessary, the pathogenesis of these conditions is discussed and any theories offered in explanation are given. The book is copiously illustrated by figures demonstrating the gross and microscopical changes described. The subject-matter is well arranged, and various different-sized types are used, thus facilitating reference. The illustrations are in many cases less elaborate, and often more diagrammatic, than is

now the vogue in English text-books on pathology, but they are explicit and are sufficiently clear to be useful. Apart from the authorities quoted in the text, and Professor Kaufmann is scrupulous in giving the names of those whose views he refers to, there is a bibliography at the end of the book extending to 75 closely printed pages. The only criticism we have to offer is that the work of English pathologists receives but little notice, though this is a not uncommon occurrence in German text-books. Professor Kaufmann's book is a valuable work of reference, especially as representative of German pathology.

LIBRARY TABLE.

The Rearing of Children. A Practical Handbook for Mothers. By J. P. O'HEA, M.B. Lond., F.R.C.S. Eng. London: The Scientific Press, Limited. Pp. 175. Price 2*s.* net. *A Manual of Nursery Hygiene.* By W. M. FELDMAN, M.R.C.S. Eng., L.R.C.P. Lond., Lecturer on Midwifery, Hygiene, Infant Care, Nursing, &c., to the London County Council. London: Baillière, Tindall, and Cox. 1910. Pp. 168. Price 2*s.* 6*d.* net.—The increasing interest taken in the study of infancy and childhood is evidenced by the number of books devoted to supplying information in regard to the care of the young. There are many matters in which it is highly desirable that those having charge of children should be educated in order to avoid the numerous preventable diseases and disorders to which the young are so liable. In regard to the feeding, clothing, and general management of infants and children there is still a lamentable ignorance among many persons. Dr. O'Hea's little book supplies in small compass and in simple yet readable language information which is calculated to enable mothers to do the best for their offspring. The first section is devoted to the feeding of infants, and the directions given are sound and in accordance with the generally accepted principles of infant feeding. The rules for breast feeding are set forth, and full directions are given for artificial feeding when for any reason suckling by the mother is impracticable. The second section gives some general information about the ordinary infectious diseases, with directions for the management of children affected by them. The third and fourth sections deal with rickets and some of the common ailments of childhood. Useful hints in regard to breathing exercises are also given. The book is characterised by the sound common sense of its recommendations.——Mr. Feldman states in his preface that his book is intended for mothers of the so-called middle classes and for district nurses and health visitors. It also contains a large amount of valuable information concerning the care and management of infants and children in health and in illness. Questions of clothing, feeding, and of the general hygiene of the nursery are dealt with scientifically and in accordance with sound common-sense principles; moreover, wherever possible, the reasons for the recommendations offered are given. There are chapters on the use and abuse of patent or proprietary foods, on ailments due to improper feeding, and on the nature, prevention, and treatment of rickets. Simple directions for the management of infants in convulsions are also given, and some general information on the infectious diseases, on tuberculous disease, and on some common ailments is afforded. An interesting chapter is devoted to vaccination, and in it the fallacies of the antivaccinationists are exposed. The second part of the book is concerned with the health of the mother. It gives some useful information regarding the hygiene of pregnancy and the periods of lying-in and lactation. This little book should be useful in diffusing important information to mothers and others concerned in the management of children. We can cordially commend it for this purpose.

A Manual of Normal Histology and Organography. By CHARLES HILL, Ph.D., M.D., formerly Assistant Professor of Histology and Embryology at the Northwestern University Medical School, Chicago. Second edition. London and Philadelphia: W. B. Saunders Co. 1909. Pp. 468. Price 10*s.* net.—We have little to add to the remarks which we made on the first edition of this manual. To deal with the whole subject of the gross and microscopical anatomy of the organs of the human body in a volume of this size necessitates considerable compression. This is carried so far that the book would not constitute a sufficient text-book for students, in this country at all events. Its strong point is its illustrations, which are numerous, and for the most part good. As a supplement to lectures on histology, or as a means of rapidly looking through the subject dealt with by a lecturer, it has merits. The attention devoted to the teeth should render it acceptable to dental students. There are brief notes on preparation of material in the introductory section and on laboratory methods and formulæ at the end. It is not very clear why these should not have been combined in one chapter. The print and paper are good, and the price is moderate for an American book.

Francis Bacon: a Sketch of his Life, Works, and Literary Friends; chiefly from a Bibliographical Point of View. By G. WALTER STEEVES, M.D. Brux. London: Methuen and Co. 1910. Pp. 230. Price 6*s.* net.—This modest volume makes no attempt to give any fresh details of Bacon's life, and it adds little that is new to the list of his works. As the expanded title indicates, it consists of a short historical summary of the great philosopher's writings. Though this summary is to some extent chronological, Dr. Steeves has classified Bacon's works into three main headings: (1) philosophical; (2) literary; and (3) professional, or legal. So little is attempted in the way of synopsis or criticism of the material, that the purely literary output of Bacon's pen occupies far the largest part of these divisions, and even readers well versed in Bacon will find their attention drawn to rare fragments of considerable value. As an instance, the tract on "The Character of a Believing Christian in Paradoxes and Seeming Contradictions" is accepted as genuine by Dr. Steeves, and his judgment in the acceptance is probably correct. It certainly forms a valuable addendum to Bacon's "Confession of Faith," though it is not mentioned either by Rawley or Tenison. To those who know little of Bacon's writings this volume will be a good guide with which to start, while the copious details of minor works will make it indispensable to the real scholar of Baconian wisdom. The book is studded with facsimiles of various title pages, which are interesting, but are inserted in such a haphazard way that they start out of the pages like electric advertisements of whisky or meat extracts in the streets of London.

The Abuse of the Singing and Speaking Voice: Causes, Effects, and Treatment. By E. J. MOURE and A. BOUYER, Fils. Translated by MACLEOD YEARSLEY, F.R.C.S. Eng. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1910. Pp. 130. Price 12*s.* 6*d.* net.—The appearance in English of Moure and Bouyer's manual on the abuse of the voice is very welcome. The book is one which should be read not only by every teacher of singing but by laryngologists. The faulty technique so prevalent to-day, which, as every throat surgeon knows, often ends in irreparable damage to the vocal organs, is, we are told, dependent upon three factors: first, the failure on the part of teachers to recognise and to allow for physical disproportion, when it exists, between the several

parts of the voice-producing mechanism—lungs, larynx, and upper air-passages; secondly, the practice of habitually forcing the voice to its extremes of power and compass; and thirdly, the too frequent use of the "chest register." In the way of treatment more can be got from preventive than curative measures. Consequently, it is advised that both at the outset of his training and during its progress the student should be placed under the surveillance of the laryngologist working in coöperation with the teacher. In these and many other important matters the book marks a new departure, and if its injunctions can be carried into effect it may herald a brighter era for vocalists. The translation is careful and exact, but shows some tendency to adhere too rigidly to the French idiom.

Manual of Medical Jurisprudence, Toxicology, and Public Health. By W. G. AITCHISON ROBERTSON, M.D., D.Sc. Edin., F.R.C.P. Edin., F.R.S. Edin. Second edition. Edinburgh: John Currie. 1910. Pp. 560. Price 8*s.*—In THE LANCET of Sept. 5th, 1908, we reviewed the first edition of this work and explained its nature and scope. We considered that it contained all that was necessary for the student to know in regard to medical jurisprudence, toxicology, and public health for the ordinary pass examinations in the final subjects, but for the higher examinations a larger work would be necessary. We now have to repeat that opinion, for the author states in his preface that as so short a period has elapsed since the appearance of the first edition, few changes have been rendered necessary. The passing of the Poisons and Pharmacy Act, 1908, receives brief consideration, as does the Children Act of the same year. A short description has been added as to the mechanical filtration of water, taking note of the many processes which have been patented for purifying water on a large scale by mechanical means. It is affirmed that by such methods the water is filtered more quickly than, and quite as thoroughly as in the filter-bed, that it is continuously efficient, that it costs much less to install, and "almost nothing to keep up, while a very small area of ground suffices." A very short account is given of Bell's patent process and of the "Candy filters," but no comment is made on their efficacy or practicability.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLI., Nos. 1 and 2. London: C. F. Clay, Cambridge University Press. Oct. 11th, 1910.—The present part contains: 1. A Reversed Action of the Vagus on the Mammalian Heart, by H. H. Dale, P. P. Laidlaw, and C. T. Symons. The well-known phenomenon is best exhibited in the cat, and with the use of paraldehyde as an anæsthetic, after the previous action of chloroform or ether, either vagus produces it equally well. It is exhibited also with tropine in from 50 to 150 milligramme doses injected intravenously, and with nicotine in 1 to 2 milligramme doses. Hordenine methiodide may be substituted and curare also. Many text figures show the effects of the vagus stimulation when the animals have been subjected to these drugs. The authors of the article think that the effects are due to the presence in the vagus of normally masked accelerator fibres. 2. Chemical Structure and Sympathomimetic Action of Amines, by G. Barger and H. H. Dale, from the Wellcome Physiological Research Laboratories. The chemical side of this investigation is due to Mr. Barger and Mr. A. J. Ewins, whilst Mr. H. H. Dale is responsible for the physiological experiments. The importance of the ketones and of the corresponding secondary alcohols in causing and intensifying the adrenin-like action in blood pressure has been shown by various observers, and it was supposed by Dakin that this effect was due to the catechol nucleus, but evidence is here given that certain amines produced by putrefaction, none of which have a catechol nucleus, have a similar action to adrenin. Hence the conception is inadequate. The authors, therefore, proposed to trace the variations in the intensity of the specific action through a series of compounds intermediate between the putrefactive amines, in particular *p*-hydroxyphenylethylamine, and adrenin itself. These compounds simulate the effects of sympathetic nerve stimulation on muscle cells and gland cells. Hence, instead of terming the action of such bases "adrenin-like" they propose to substitute the term "sympatho-mimetic." The rest of the article is devoted to the action of the various amines, with many woodcuts exhibiting their effects. Catechol, they find, has no sympatho-mimetic action. 3. The Gases of the Arterial and Venous Blood of the Cat, by George A. Buckmaster and J. A. Gardner, from the Physiological Laboratory, University of London. 4. An Investigation of the Sino-auricular Node of the Mammalian Heart, by Martin Flack. 5. The Fate of Parahydroxyphenylethylamine, by A. J. Ewins and P. P. Laidlaw, from the Wellcome Laboratories. 6. On the Production of Glycosuria in Relation to the Activity of the Pancreas, by Ivor Ll. Tuckett, M.A., M.D.

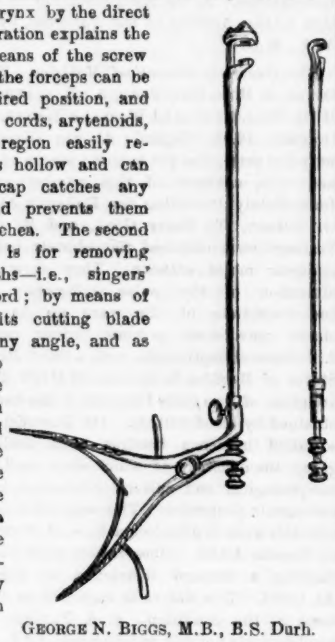
The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. IV., No. 13. October, 1910. Oxford: At the Clarendon Press. Subscription price, 25*s.* per annum; single numbers, 8*s.* 6*d.* each net.—The contents of this number are: 1. The Pulse Immediately Preceding the Epileptic Attack, by Alexander G. Gibson, T. Saxty Good, and R. Greenwood Penny. Tracings were obtained immediately before the fit in five epileptic major attacks. They show that there is no alteration of the pulse sufficiently definite to affect the amplitude of the wave up to the point where clonic convulsions prevent further record being taken. 2. Influenzal Septicæmia, with a Short Review of the Present Status of Bacillus Influenzæ, by Hugh Thursfield. Details are given of two cases from which the bacillus influenzæ was obtained by blood culture. Dr. Thursfield suggests that the so-called influenza bacillus is in reality only one of a group, the members of which show similar, if not identical, morphological and cultural characters but possess different pathogenic properties. The suggestive contribution is dealt with this week in a leading article. 3. Hereditary Hæmophilia, by Thomas Addis. Observations upon 12 cases are recorded showing a marked deficiency in the coagulability of the blood. This defect is regarded as the only immediate cause of the condition. 4. A Further Note on Hæmatoporphyrinuria not due to Sulphonal, by T. K. Monro. 5. Two Cases of Acute Endocarditis, by John Cowan, A. M. Kennedy, A. R. Patterson, and John H. Teacher. An interesting clinical and pathological study of the heart in two fatal cases of endocarditis is given. Microscopical examination of the *a.v.* node and bundle revealed well-marked inflammatory lesions which are regarded as explaining certain alterations in the *a.c.* interval of the jugular pulse curves. 6. Tuberous (Tuberose) Sclerosis, by J. S. Fowler and W. E. Carnegie Dickson. A case is recorded and an analysis is given of the literature of the subject. The writers conclude that tuberous sclerosis constitutes a definite form of idiocy, and that it may sometimes be diagnosed during life by the recognition of some of the associated tumours in a mentally defective person who is, or has been, subject to epileptiform convulsions. 7. Coupled Rhythms of the Heart, by John M. Cowan and W. T. Ritchie. They prefer the term coupled rhythm for the conditions described to that of pulsus bigeminus, and they do not include the pulsus alternans. They divide the cases into

two groups—those of the ventricles alone and those of both auricles and ventricles. Coupled rhythms may occur from various causes and are often due to a regularly recurring extra-systole, most frequently of ventricular origin. The writers of the paper sum up their views in the following sentence: "Whenever an enfeebled heart is unduly irritable in an abnormal site, any excessive rise of intracardiac pressure may produce a regularly recurring premature systole which originates in the irritable area." 8. The Outlook of Sufferers from Exophthalmic Goitre, by W. Hale White. The after-histories of a considerable number of hospital and private cases are given, with a view to throwing light upon the outlook of patients with this disease apart from operative measures.

New Inventions.

IMPROVED LARYNGEAL FORCEPS.

Messrs. Krohne and Sesemann have recently made this instrument for me, and I have found it very useful for operations on the larynx by the direct method. The illustration explains the mechanism. By means of the screw the cutting part of the forceps can be rotated to the required position, and the growths on the cords, arytenoids, or inter-arytenoid region easily removed. The cap is hollow and can be opened; this cap catches any pieces removed and prevents them passing into the trachea. The second attachment shown is for removing very small growths—i.e., singers' nodes from the cord; by means of the same screw its cutting blade can be fixed at any angle, and as the blade fits into a depression on the foot-piece which is under the cord the growths can be removed and the risk of injuring the cord is reduced to a minimum. The different attachments can easily be removed from the handle.



GEORGE N. BIGGS, M.B., B.S. Durh.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting of this association was held at 34, Copthall-avenue, London, E.C., on Oct. 18th. Mr. D. B. BALDING was in the chair.

A letter was considered from a country member complaining that the guardians in his district had appointed as district medical officer a practitioner who resided seven miles away from his district. This had been sanctioned for one year by the Local Government Board, but recently he had been re-elected by the guardians for a further period of three years. It was unanimously considered by the council that the matter required investigation; that on the face of it it was a scandal to appoint a district medical officer living seven miles away from his district, having regard to the necessities of the sick poor.

A communication was received from a public vaccinator complaining that because he had resigned his district medical officership on account of inadequate remuneration he was now threatened with the loss of his vaccination office. The local division of the British Medical Association had banned the appointment he had resigned, and so far there had been no applicants, but he felt sure that if no one would take this post at the old rate the guardians would endeavour to attract applicants by adding the post of public vaccinator to it. Strong comments were made by those present on the unprotected position of the public vaccinator, and the unscrupulous use made by the guardians of the remuneration from this source to underpay Poor-law appointments. It was regretted by the council that no assistance could be given to their correspondent. Under the present law only a month's notice need be given by the guardians to determine any public vaccinator's office, and this could be done without any reason being given, and it appeared that the Local Government Board had no control in the matter at all.

Another correspondent wrote complaining of the refusal of his guardians to allow him the extra fee of £2 for attendance on a long case of phlegmasia dolens on the ground that he had not attended at the confinement of the patient, having only received the order 12 days afterwards. He quoted from Art. 182 of the Gen. Ord. of July, 1847, which lays down that a district medical officer shall be entitled to a fee of £2 in any "special case where great difficulty may have occurred in the delivery, *or long subsequent attendance in respect of some puerperal malady, or affection, may have been requisite.*" There was some difference of opinion on this point. It was thought by some that in order to be entitled to this fee the medical officer must have been called to the confinement or very shortly afterwards. But a majority of the council thought that under the article any long-continued attendance on a puerperal case was sufficient, and the honorary secretary was instructed to write and advise the member to push his claim and proffer the assistance of the association.

A delegate from the district medical officers of a metropolitan borough also attended the council meeting to ask for assistance. He stated that the guardians, owing to a recent resignation of one of the district medical officers, were endeavouring to reduce the number of district medical officers from five to four and to force on to two of their number the vacated district under very inequitable conditions. The district medical officers claimed that there should be a re-arrangement of the whole area. That under the present arrangement only one of their number received about the average payment of the district medical officers throughout the metropolitan district—viz., 3*s.* per order. That all the others were being paid less than 2*s.* per order. They had sent in a memorial to their board of guardians, and if this were ignored they proposed to carry it to the Local Government Board. The council expressed its sympathy and promised all the assistance in its power.

The honorary secretary read a letter from Mr. Shirley Fussell asking the association to appoint four delegates to meet delegates from the National Poor Law Officers' Association, the Union and Rural District Clerks' Association, and the Workhouse Masters' and Matrons' Association in a joint conference to consider the recommendations of the Royal Commission on the Poor-laws affecting the interests of Poor-law officers, and report as to what action (if any) it is necessary or desirable to take now, or in the future, to safeguard the interests of the service.

The council appointed Mr. W. Holder (Hull), Mr. A. A. Napper (Cranleigh), Dr. F. S. Toogood (London), and Dr. Major Greenwood (London) to represent the Poor-law Medical Officers' Association in the proposed conference.

CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.—The annual meeting of this society was held at 81, Boulevard Malesherbes, Paris, on Oct. 15th. The annual dinner was held in the evening at the Carlton Hotel, Paris. The chair was occupied by Sir Frederick Treves, who warmly congratulated the society on its excellent work, laying stress on its usefulness in uniting and in bringing to the notice of the profession at home responsible men to whom patients travelling abroad could be safely entrusted. This very successful gathering was brought to a close by two happy speeches from Professor Tuffier of Paris and Dr. Alexander Lambert of New York, who assured the members of the regard of their colleagues in France and in America.

THE LANCET.

LONDON: SATURDAY, OCTOBER 29, 1910.

Report on the Measures Taken Against Malaria in the Lahore (Mian Mir) Cantonment.

THERE was a considerable conflict of opinion respecting the value of the results obtained at Mian Mir from the experiment, begun in 1901, of applying anti-mosquito measures for the prevention of malaria at that station. By some the experiment was regarded as a failure, although every chance had been given to it; by others it was contended that it would have been a success if the programme had been fully followed up. In consequence of the controversy Mian Mir acquired considerable notoriety, which may have led the authorities recently to change the name to "Lahore Cantonment." As the results of the anti-mosquito campaign remained in doubt, suggestion was made that the Indian Government should institute an impartial inquiry into the Mian Mir experiment. Accordingly they appointed a commission in October last to make the necessary investigation. The commissioners were three in number—viz., the Hon. R. NATHAN, C.I.E., of the Indian Civil Service; Lieutenant-Colonel H. B. THORNHILL, C.I.E., of the Indian Army; and Major L. ROGERS, M.D. Lond., I.M.S., Professor of Pathology in the Calcutta Medical College, only the last of them, therefore, being a medical man, but he a well-known authority on fevers of the tropics.

The terms of reference to this small but well-equipped commission were "to inquire and report upon (1) the manner in which the Mian Mir experiments, which had for their object the extermination of mosquitoes and the abolition of malaria by means of operations against mosquitoes, were carried out; (2) the results obtained from the operations at Mian Mir; and (3) whether operations similar to those employed at Ismailia, Panama, and Lagos can be successfully applied to Indian centres of population." The commissioners visited Lahore cantonment on Oct. 21st and spent six days in making a general survey of the station, examining the drainage system, inspecting the excavations and depressions likely to serve as breeding places for anopheles, searching for adult malaria-bearing mosquitoes, examining the spleens of children in the native bazaars, and testing their blood infection. Statistics and other data were also collected, and evidence was taken on the spot from a number of witnesses resident in the cantonment. On their return to Simla the commissioners examined other witnesses; in all some 22 persons gave evidence, 13 of them being medical men. On their visit to Mian Mir the commissioners were accompanied by Captain S. R. CHRISTOPHERS, I.M.S., who had taken part in carrying out the original anti-mosquito campaign which was begun in 1901. The report of the commission, which is dated Nov. 25th, 1909, was completed with great promptitude, for the interval between the beginning of the inquiry and the report was little over a month. The report is made under five chief headings which relate to (1) description of the cantonment; (2) an account of the operations carried out by Major JAMES and Captain CHRISTOPHERS during 1901–3, and their results; (3) an account of the general operations undertaken by the military authorities from 1904–09; (4) the result of these measures; and (5) an examination of anti-malarial campaigns in other countries with a view to test the applicability of similar measures to Indian conditions. The report comprises some 60 folio pages of printed matter, including tables of statistics. In addition there are two maps and a number of charts. In their summary of conclusions the commissioners say that while anti-malarial operations in Mian Mir were carried out under conditions which were in many respects favourable, yet, on the other hand, there were circumstances which undoubtedly interfered with the success of the experiment. Among these it may be mentioned that the station as well as the surrounding country is flat, the subsoil when wetted becomes impervious, the rainfall is concentrated into the autumn months, and its distribution in some years is favourable to the breeding of anopheles. Moreover, the cantonment is very large (8 square miles) compared with its population (16,000), and its drainage system involves the maintenance of an enormous length of earth drains. A whole series of deep excavations and other depressions lie immediately around the station. Lastly, the native bazaars, lines, and servants' quarters with infected children are interspersed throughout the cantonment with bodies of troops, including non-immune Europeans. As regards the later stage of the anti-mosquito campaign, the commissioners say that the special facilities offered by the military organisation and strength of the station were utilised to the utmost extent, and an immense amount of work was done to abolish the breeding-places of anopheles within the cantonment. The closing of the irrigation channels, the reform of the drainage, and the filling up of depressions during the period 1904 to 1909 must have had an enormous effect in diminishing the opportunities for the breeding of mosquitoes. The commissioners, in fact, assert that it would not be easy to find elsewhere an example of equally thorough and painstaking operations. Notwithstanding all that was done, the mosquito breeding-places were not altogether abolished. Minor anti-larval operations in all parts of the cantonment and in all seasons had not been adequate to suppress completely the breeding of mosquitoes where opportunity for this still existed. The effect of the measures on the malarial conditions of the station appeared to the commissioners to be negative. Adult anopheles, it is said, were as abundant as ever and malaria was no less prevalent than before among the native population. Making allowances for causes affecting statistics, there would seem to be some, though perhaps not very great, diminution of malaria among the British troops. Having regard (1) to the similar reductions in other cantonments, (2) to the degree of perfection with which quinine prophylaxis is now carried out, and (3) to the fact that any improvement that there may be would not appear to be shared by a native population among whom quinine prophylaxis is imperfect or non-existent, the commissioners do not think that there is

any proof that the anti-larval operations have contributed materially to the diminution.

The whole situation illustrates the difficulties of eradicating mosquitoes, and emphasises, in the opinion of the commissioners, the need for further research and experiment. In accounting for this failure two conjectures are hazarded in the report: either (1) the circumstance that a very great but not altogether perfect reduction of breeding-places does not appear to have been accompanied by an improvement of malarial conditions may possibly indicate that where other conditions favour the existence of malaria partial abolition is of no avail until a point is reached nearer total abolition than has hitherto been anticipated; or (2) the existence of an enormous collection of breeding places situated all around the station, but at some distance from it, may enable mosquitoes breeding in those places to frequent the lines and the bazaars for their food in such numbers as to neutralise the effect of diminished breeding within the inhabited area. If this be the case it follows that protective measures would have to be extended far beyond the distance hitherto regarded as necessary. Finally, it may be said that the amount of organisation, supervision, labour, and expenditure devoted to the experiment has been greater than would be possible in any ordinary Indian town of similar size and population. The operations carried out at Mian Mir cannot, therefore, be taken as typical of what might ordinarily be done in Indian towns, and still less in Indian rural districts. In discussing the applicability of the methods adopted in Ismailia, Panama, and elsewhere the commissioners state that the facts which they have summarised on this part of the inquiry do not lead them to conclude that anti-malarial measures such as have been carried out in these places can be readily adopted in India with the assurance of speedy and certain success. The problem, the commissioners add, is one of immense complexity and difficulty, and unhappily no satisfactory solution is yet in sight. Nevertheless, it may be accepted that anti-larval measures combined with quinine prophylaxis offer great possibilities; the Government therefore should not be deterred because of the magnitude of the task or the uncertainty of the issue. In the opinion of the investigators the work for the immediate future lies in patient and searching inquiry and in careful and continued experiment. It is essential for the wide success of any measures that they should have the active coöperation of the people whose interests they are intended to serve, and that they should go hand in hand with general improvement of the sanitary environment of the Indian people whose education in this direction lies at the root of the problem.

Partial Enterocele in an Obturator Hernia.

IN THE LANCET of Oct. 15th there was recorded by Dr. H. LEWIS BARKER a case of Richter's hernia strangulated in the obturator canal. Richter's hernia, as it is most commonly called nowadays, or partial enterocele as it is better named, is a decidedly rare condition, and even since it was first described it has often been confused with other conditions somewhat similar. The essential point in a partial enterocele is the inclusion within the hernial sac of less than the whole circumference of the bowel. In fact, in the majority of cases, the portion included in the sac is less than half the circumference. It is somewhat difficult in accounts by the older writers to be certain what was the condition which they wished to describe, and so it is not easy to determine when this form of hernia was first recognised. In 1700 LITTRE of Montpellier described a form of hernia which had not previously received recognition, for in it the piece of bowel involved formed a pouch-like projection from one side of the bowel. It appears to be fairly certain that in two of the three cases which he had observed the strangulated portion was what we now know as a Meckel's diverticulum. It is possible that the third case was really a partial enterocele, and this is probably the reason why the name of LITTRE was given to this variety up to comparatively recent years. As Sir FREDERICK TREVES, however, has pointed out, LITTRE apparently confused two conditions, for, at all events, two of his cases were examples of strangulation of a diverticulum. The same observer showed that the true partial enterocele was first clearly described by RICHTER in 1778, and therefore suggested that it would be better to confine the name Littre's hernia to the hernia of a diverticulum and to give the name Richter's hernia to the partial enterocele.

We agree that if the names of persons are to be given to diseases or other morbid conditions it is desirable that the name of the author of the earliest description should be employed. But if this rule is to be followed in this case, partial enterocele should be called "Lavater's hernia," for his description was published in 1755, and it was probably written much earlier. While willing to give the credit to all these pioneers in the description of different forms of hernia we think that we have here an excellent illustration of the desirability of not using personal names in the titles which we give to morbid conditions; it is preferable to let the name be, so far as possible, descriptive of the disease. No real objection can be put forward against employing the term "partial enterocele" for that form of hernia which is now generally associated with the name of RICHTER, and hernia of the diverticulum for that which appears to have been described for the first time by LITTRE. When the greater part of the circumference of the bowel is involved in a partial enterocele, the signs and symptoms in no wise differ from those of an ordinary hernia, and if strangulation should occur the symptoms are well marked. If, on the other hand, less than half the circumference of the bowel is involved, the symptoms present, even if strangulation occur, may be remarkably slight. As no occlusion, or hardly any, occurs, there is no obstruction to the onward passage of the intestinal contents, no constipation is present, and vomiting may be infrequent and slight, and abdominal distension is generally absent. In this absence of severity of the symptoms lies the great danger from a partial enterocele, for perforation of the bowel may occur without the appearance of any symptoms suggestive of the likelihood of such an occurrence. It seems to be clear from the statistics that the form of hernia in which partial

enterocele occurs is chiefly the femoral, and therefore it is not surprising that the majority of cases occur in women.

In the case reported in THE LANCET recently the partial hernia was an obturator hernia, and this association is not so rare as would be thought, when we consider how rare any form of obturator hernia is; for the opening in the obturator foramen through which the bowel can make its way is very small, and it can only rarely happen that the whole circumference of the bowel is engaged in the sac. When this association does occur, when a partial enterocele takes place in the obturator opening, the danger of the situation is extreme, for in the first place the nipping of the gut may give rise to hardly any symptoms, and, in the second place, the depth of the hernia from the surface may cause no visible local prominence, and therefore the difficulty of recognising the condition early will be greatly increased. The treatment best adapted for a strangulated obturator hernia has hardly yet been determined. While some are still in favour of approaching the hernia by an incision below Poupart's ligament, most surgeons consider that the intraperitoneal operation gives a better view of the hernia and a better opportunity of dealing with the bowel if its vitality has been seriously lowered. There can be little doubt that the abdominal route offers many advantages.

The Bacteriology of Influenza.

DURING the epidemic which occurred in 1889–91 the disease known as influenza was investigated in a thoroughly scientific manner. We are not now concerned with the history of the malady, but it would seem probable that since about 1650 a disease with similar characters has now and again appeared in this country. Since 1891 there has scarcely been a single year but that a recurrence of "influenza" in one place or other has taken place. The clinical symptoms, however, have varied considerably, and numerous authorities are of the opinion that many of these outbreaks are of the character of "catarrhal fever" rather than of true influenza. This view is to some extent supported by bacteriological considerations, for although in the epidemic of 1889–91 PFEIFFER described a bacillus which has been widely accepted as the causal agent of the disease, this organism has not always been isolated during epidemics of more later years, but other microbes have been found, notably the micrococcus catarrhalis. Not only is this the case, but organisms indistinguishable from Pfeiffer's bacillus have been found in disorders which were not obviously of influenzal origin, so that there appears to be reason to believe that on the one hand what is clinically called influenza is not one disease but a series caused by different microbes, and that on the other hand the organisms hitherto described as bacillus influenzæ are not all identical with it, but belong to a group the various members of which possess very different pathogenic powers. The bacillus first described by PFEIFFER is very small, having about the same diameter as the bacillus of mouse septicæmia, but only half its length ($0{\cdot}2\mu$ by $0{\cdot}5\mu$). It is usually solitary, but it also occurs in chains of three or four. It is non-motile, and, so far as is known, does not form spores. It stains with some difficulty and is Gram-negative. It grows poorly upon artificial culture and is not easy to isolate, as the associated bacteria tend to outgrow it. It flourishes most readily upon culture media containing hæmoglobin or blood, but can also be cultivated upon glycerine agar-agar. This is the well-known and typical Pfeiffer's bacillus; the question is what relation it bears to other organisms resembling it, resembling it indeed so closely that the difference is imperceptible, which are found in conditions other than "influenza."

In the *Quarterly Journal of Medicine* for October is an article entitled "Influenzal Septicæmia, with a Short Review of the Present Status of Bacillus Influenzæ," by Dr. J. HUGH THURSFIELD, in which an interesting summary is given of this matter as it now stands. It is pointed out in this contribution that PFEIFFER and his followers laid down the proposition that where organisms of the bacillus influenzæ type are found there is a definite influenzal infection, and he called certain similar organisms which were found in non-influenzal affections pseudo-influenzal bacilli, attempting a differentiation on grounds of morphology only. Another observer, JOCHMANN, maintains that no essential morphological difference exists between the organisms derived from influenzal and non-influenzal sources. Although there is a general agreement among bacteriologists as to the morphological characters of the organism which PFEIFFER discovered, there is a wide divergence of opinion as to its occurrence in the blood, PFEIFFER and JOCHMANN declaring that when the organism appears in the blood it is usually a post-mortem or agonal phenomenon, while CANON and others claim to have found it in the blood in a large percentage of cases. In connexion with this subject the two cases recorded by Dr. THURSFIELD are of interest. From the clinical aspect, one patient was suffering from an attack of influenza, whilst in the second case there was no evidence of anything resembling such an attack, yet in each instance organisms were found in the blood which corresponded perfectly to the bacillus of Pfeiffer. The first case might justly be classed under the heading of influenzal septicæmia. We have already mentioned that Pfeiffer's bacillus, or rather one indistinguishable from it morphologically, has been found in other diseases. It is fairly frequent in the broncho-pneumonic patches of children dying from diphtheria, usually in conjunction with streptococci and pneumococci, and it has also been demonstrated in measles, in scarlet fever, and in the lungs of patients who have died from tuberculosis. Probably in these cases of mixed infection Pfeiffer's bacillus was only present as a saprophyte. A similar organism has also been found in whooping-cough, but here, as Dr. THURSFIELD points out, the question is more complicated. Some observers have not been able to distinguish the microbes found in this disease from Pfeiffer's bacillus, but BORDET demonstrated certain differences in cultivation which tend to show that the organisms described by him are not the same as those connected with influenza, but are the causal agent of whooping-cough. Further evidence was forthcoming in the appearance in the blood of specific immune substances. Another condition that has recently attracted attention is a purulent form of cerebro-spinal meningitis. In this instance also organisms have been found resembling both in morphological and cultural characteristics the

bacillus of influenza. COHEN, however, is of opinion that this form of meningitis is in reality a new disease due to an organism which, though in many respects similar to Pfeiffer's bacillus, can be distinguished from it by its pathogenic effects upon rabbits and guinea-pigs. Dr. THURSFIELD likewise mentions that similar organisms have been found in cases of otitis media, and in four cases at St. Bartholomew's Hospital in pus from the antrum of Highmore.

It will thus be seen that the presence of an organism conforming in every particular to Pfeiffer's bacillus does not necessarily indicate that there has been an influenzal infection. There would appear to be many "strains" of the bacillus, each possessing very different pathogenic powers, being in this particular somewhat similar to the characteristics exhibited by bacilli of the colon group. In some respects also a resemblance to the pneumococcus and other organisms is shown, in that although present in an apparently healthy body or in a lesion, they do not produce their usual morbid effects. Further, the bacillus of Pfeiffer has been found in the secretions of the nose and throat for long periods after an attack of influenza has subsided, and it has been suggested that in this manner the interval between one epidemic and another may be bridged over. The question whether such cases may come under the category of germ carriers offers an interesting field for further research. The points referred to by Dr. THURSFIELD are of importance and his remarks are well worthy of attention. Some of his conclusions can only be confirmed by further investigation should epidemics of typical influenza again break out, but other subjects to which he draws attention, such as the pathogenic organism of whooping-cough in the form of Bordet's bacillus, can be more readily inquired into. It would also be desirable that more positive information should be acquired in regard to the bacteriology of the frequent epidemics of so-called influenza, which are constantly occurring, but which have probably a different origin.

ON Wednesday last His Majesty the King conferred the honour of knighthood upon Dr. J. Kingston Fowler and Mr. A. Pearce Gould, investing them with the insignia of a Knight Commander of the Royal Victorian Order.

THE WORKMEN'S COMPENSATION ACT.—At Barnstaple (Devon) county court last week, before Judge Beresford and Mr. A. W. Lemarchand, sitting as medical assessor, the widow of a local slaughterman claimed compensation from a butcher for the loss of her husband, who died last May from anthrax. For the defence it was contended that the case did not come under the Act, as the deceased was not a workman under contract for service. He only worked two days a week for defendant and employed another man. The killing of the cattle took place at a slaughterhouse provided by the railway company and for which no charge was made, and the deceased provided his own tools. These facts, the counsel contended, were contrary to the ordinary relationship that existed between the master and servant. His honour was of opinion that the only question was whether deceased contracted anthrax during the time he was in the employ of the butcher, and as that was proved the widow was entitled to recover, and he awarded her £150

Annotations.

"Ne quid nimis."

THE DEATH OF PRINCE FRANCIS OF TECK.

THE death of H.S.H. Prince Francis of Teck removes from our midst one who as a man was deservedly popular among those privileged to be his friends, and who was indefatigable in the employment on behalf of others of the influence associated with his high position. In the interest which he evinced in charitable work during the recent years of his life he followed worthily in the steps of many of his family, and with the practical good sense which is one of their leading characteristics, he knew how to concentrate his energies in one or two directions at a time so as to secure the fullest possible effect for the assistance which he proffered. Thus, having sympathy with manly training and with men in the making, he left a name that will long be remembered by many boys now growing into manhood in Hoxton; and thus also in espousing the cause of the sick and injured poor of London he associated his name and influence with the effort to relieve the needs of the Middlesex Hospital, and devoted time and personal effort to the substantial improvement of its financial position. For such work as that to which we have referred he was singularly fitted by personal gifts of disposition and manner, by a genial bearing towards his fellow men, and a simple courtesy free from all suspicion of effort or affectation. In that which he did on behalf of the Middlesex Hospital he had achieved marked success; the further endeavours upon which he was bent would have had the same fortunate issue, and we express our deep regret that on the threshold of middle age his career of usefulness should be cut short. Prince Francis had been suffering for some time from an affection of the nose. After his return from Marienbad, where it had been recognised as an empyema of the antrum, an operation was performed and the cavity was drained. On Sept. 28th the Prince went to Balmoral, and soon after arriving there he suffered from occasional paroxysms of cough with expectoration. He kept quiet and was not at any time exposed to chill. On Oct. 4th he was suddenly seized with severe pain in the right side; his temperature rose to 102·5° F., and a friction sound was detected at the right base. The signs of effusion gradually developed, and he was unable to travel south when the Court left on Monday, Oct. 10th. On the following day a consultation was held, and it was decided that he probably had an empyema, for which an operation would be necessary. The pneumococcus had previously been found in the expectoration. As there were then no urgent symptoms, and as his general condition had somewhat improved, it was decided, after a further consultation, that he should travel to London on Oct. 13th and proceed at once to the nursing home. He was seen on arrival, and at the examination the physical signs which had been reported were found. On the same afternoon, Oct. 14th, an exploratory puncture revealed the presence of a condition requiring early operation—this was performed the same evening. The fluid removed contained a pure culture of pneumococcus. After the removal of the pressure upon the lung by the opening and draining of the pleura, examination showed that an excavation existed in the right upper lobe and that the pneumococcal infection had spread from the lung to the pleura. The temperature fell to normal on the morning of Oct. 15th, but there were no other signs of improvement. The temperature rose again for three days, and then for four days it was normal. The toxic effects upon the nervous

system were very pronounced throughout the illness and in the early hours of Saturday, Oct. 22nd, the heart began to fail, the patient passing away at 11 A.M.

INCARCERATION FOR LIFE AND ITS CONSEQUENCES.

JUST 12 years ago the Italian anarchist Luccheni was sentenced to life-long imprisonment at Geneva for the murder of the Empress of Austria as she was entering a steamboat on that lake. It was said at the time that he selected his opportunity so as to commit the crime in a canton where the death penalty had been abolished. However that may be, he was sentenced to solitary confinement within the prison of Evechè, and for a time seemed to reconcile himself to his fate with a cynicism which might pass for equanimity. But in his case, as in well-nigh every other of the kind, symptoms of mental alienation betrayed themselves, mainly in explosions of anger accompanied with violence, in one of which he nearly killed the director of the prison, M. Perrin. Since then, the surveillance imposed on him having been made more stringent, the isolation, and the morbid brooding, intellectual and moral, which it encourages, began to tell, and he was closely watched as an inmate whose next outburst might be homicidal or suicidal, or both. Set to work at bookbinding, an occupation which seemed to soothe him, he had his work prescribed for him a few days ago by the head of that *métier*, but in a sudden access of discontent, passing into rage, his language and demeanour became so aggressive that he was consigned to his cell to await "discipline." No sooner had the door closed on him than his fury became maniacal. He seized every utensil within reach and hurled it through the window, endangering the wayfarers in the street below with the débris, and attracting a crowd to the spot. This brought the new director, M. Ferres, accompanied by six able-bodied keepers, to his cell, where, after a violent struggle, he was pinioned and placed in an underground place of detention. Such explosions, occurring so frequently in the case of criminals expiating the life-penalty in seclusion, are now regarded in Italy as the inevitable outcome of the treatment, and, issuing as they do in chronic mania and finally in dementia, are already reviving discussion as to the justice, or the wisdom, of exposing the felon to such a fate. A few months ago Passanante, who attempted King Humbert's life in 1878 when on a royal progress through Naples, died, prematurely, a decrepit imbecile in the asylum for the criminal insane at Montelupo in Tuscany, and the miserable spectacle he presented for years before sufficed to awake misgivings in Italian medico-legal circles as to whether the gallows or the guillotine might not appropriately resume its function, after more than a generation's experience of the futility of solitary imprisonment for life as a deterrent and of its cruelty as a penalty. Reference was made in the course of discussion to the classical debate on capital punishment in our House of Commons in the late "sixties" of last century, when John Stuart Mill powerfully advocated its retention on the ground of humanity, and another authority, Sir George Bowyer, clinched that thinker's argument by facts drawn from his experience of Italy as to its deterrent value. Since then M. Briand, the French Premier, has seen the wisdom of a return to the guillotine, after the non-success of its quasi-humanitarian substitute, "burial alive within four walls," in checking the rising, spreading "tide of bloodshed" among the civil population. A similar revulsion of feeling and conviction is apparent beyond the French frontier, and the suicide of Bresci at San Stefano, the tragic "life-in-death" of Passanante at Montelupo, and now the maniacal outbursts and terrible fate of Luccheni at Evechè, will go far to bring about the revival of a punitive method rescinded on grounds of sentiment rather than of legislative wisdom. Luccheni committed suicide in the subterranean cell to which he had been relegated a few hours before. His violence in demeanour and language had so far calmed down that his keepers allowed a brief interval to elapse before renewing their watch over him. He had indeed been singing gaily after being removed to the strong room, and it was with something more than surprise that at 6 P.M. on the occasion of the evening visit he was found dead, suspended by his leathern waist-belt from the iron grating of his window. Post-mortem examination is expected to yield results, particularly as to the cranium and its contents, which will give peculiar interest to the medico-psychological report on the man and his history. Megalomania, or the symptoms which lead up to it, were, in the opinion of more than one specialist, in evidence not only at the trial in November, 1898, but also during the years of subsequent detention, in so much that his repeated outbursts of rage, invariably coincident with "wounded *amour propre*," came to be looked for as inevitable on every occasion when the discipline or the work connected with it was not to his taste or liking. According to some who have been interested, psychologically, in his case, his intense love of notoriety, his eager craving to "get talked about"—conspicuous throughout his whole career in society or when excluded from it—explains the act of self-murder which makes his fellow prisoners congratulate themselves (according to the Italian journals) on having been thus relieved of an eminently disagreeable, not to say dangerous, companion.

THE PHYSIOLOGICAL STANDARDISATION OF CARDIAC DEPRESSANTS.

IN the *American Journal of Pharmacy* for October Dr. Thomas S. Githens and Mr. Charles E. Vanderkleed contribute an account of their work on the physiological standardisation of cardiac stimulants and depressants. Of the former class they worked on apocynum, convallaria, digitalis, squill, and strophanthus. So much has been published on the standardisation of these drugs that it need only be mentioned that the investigation throws light on the amounts required to produce certain effects, a phase of the subject which has received but little attention. The group of cardiac depressants includes aconite, gelsemium, and veratrum, and nearly related to them is another group, including physostigma, lobelia, and conium, which act chiefly on the voluntary muscles and kill by respiratory rather than cardiac failure. The investigation showed that with all these drugs toxic symptoms are manifested even under the influence of comparatively small doses, whereas with drugs of the digitalis series a dose slightly less than the toxic dose causes only slight toxic phenomena. On this account the dosage of the cardiac depressants is not as sharply defined as that of the cardiac stimulants, and in making a standard for these drugs it is necessary to fix an arbitrary period of time within which the animal should die, the period suggested being three hours. The heart depressants are characterised further by the production of evident effects when given in sub-lethal doses. Thus, aconite causes violent retching, gelsemium is likely to produce convulsions followed by paralysis, while veratrum stands between them in regard to these phenomena. The drugs which cause death by failure of the respiration—viz., conium, physostigma, and lobelia—can all be standardised by chemical means, as their activity is largely dependent upon their alkaloidal content. But in the case of aconite, gelsemium, and veratrum, although their activity depends upon the presence of certain alkaloids, their physiological activity is not necessarily proportional to their alkaloidal strength. The physiological activity of aconite is mainly

due to aconitine, but this alkaloid is liable to split off a methyl or a benzoyl group during the preparation of galenicals, whereby the aconitine becomes inactive although capable of responding to the chemical reactions of an alkaloid. This is particularly likely to occur when the preparations of aconite are kept for a long time. Veratrum contains an active alkaloid, veratrine, together with several inactive alkaloids, and similarly gelsemium contains gelsemine and gelseminine, of which the former has practically no effect upon mammals. In the case of these drugs, therefore, it is necessary to standardise by physiological means, in order to avoid the misleading results that may follow from a chemical assay. The method adopted consists in determining the amount of the preparations of these drugs that proves fatal to guinea-pig within three hours. It was noticed in the case of gelsemium that the tincture was much more toxic than the fluid extract, on the basis of equivalent amounts of total alkaloid, while in the case of aconite just the opposite result was obtained. It seems probable that the prolonged percolation which occurs in the preparation of the tincture dissolves a higher proportion of the intensely active gelseminine. In spite of the diverse chemical characters of the alkaloids of veratrum, it was found that the activity of its preparations agreed quite closely with the percentage of alkaloids present. It is the intention of these investigators to continue the comparison of the results of physiological and chemical methods of assaying drugs, including a series of comparisons with conium, physostigma, and lobelia.

SANITARY CONDITIONS AND INFANT MORTALITY IN LANCASHIRE TOWNS.

THE Registrar-General's list of large towns dealt with in his weekly returns includes 15 towns in the county of Lancaster, with an aggregate population estimated to the middle of this year at very nearly 3,000,000. The mean reported annual rate of mortality in these Lancashire towns during the past summer quarter was equal to 14·5 per 1000. It may be well to compare this death-rate with the rate of mortality in the county of London during the same period, which did not exceed 11·0 per 1000. Thus the rate of mortality from all causes in the Lancashire towns exceeded that which prevailed in the whole county of London, with a distinctly urban population little short of 5,000,000, by more than 30 per cent. One of the main causes of the excess of mortality last quarter in the Lancashire towns was the greater fatality of diarrhœa, principally infantile, which caused an annual rate of 1·48 per 1000, nearly three times as high as the rate from the same cause in London, which was but 0·55 per 1000. Fatal infantile diarrhœa is now recognised as to a large extent the result of neglect and ignorance in the treatment of infants. It seems improbable that the proportion of the population suffering from actual poverty is smaller in London than in the aggregate of the Lancashire towns, and therefore it is difficult to explain this marked excess of the death-rate in the Lancashire towns otherwise than as the result of less efficient sanitary administration than obtains in London. It is indeed impossible to doubt that the excess of mortality in the Lancashire towns, compared with London, implies a lower standard of sanitary condition, and such a conclusion is supported by comparison of the statistics of infant mortality during the past summer in the Lancashire towns and in London, the results of which comparison are not affected by the probable over-estimate of the present population of many of our largest towns. During last quarter the deaths of infants under one year of age in London did not exceed 95 per 1000 of the registered births, against 129 and 109 in the corresponding periods of 1908 and 1909. In the 15 Lancashire towns, however, the mean rate of infant mortality last quarter was equal to 143 per 1000 births, showing an excess of more than 50 per cent. upon the London rate; in the summer quarters of 1908 and 1909 the mean rate of infant mortality in these 15 towns was 171 and 134 per 1000 respectively. In these Lancashire towns the rate of infant mortality last quarter ranged from 96 in Barrow-in-Furness, 98 in Rochdale, 103 in Warrington, and 113 in Oldham, to 157 in Bury, 158 in Wigan, 161 in Bootle, 179 in Burnley, and 209 in Preston; thus in each of the 15 Lancashire towns was the rate of infant mortality last quarter higher than in London. It is specially noteworthy that whereas, speaking generally, the rate of infant mortality last quarter in our largest towns showed a distinct decline from the rate recorded in the same period of last year, the rate was actually higher in 11 of the 15 Lancashire towns, and only showed a decline in Liverpool, Wigan, Bolton, and Bury. These facts call for the serious attention of the urban sanitary authorities in Lancashire, and of the ratepayers by whom those authorities are appointed. The much-needed decrease in the loss of life and health of infants in our urban populations will not become general until a rate of infant mortality exceeding 100 per 1000 births is fully recognised as discreditable to the community in which it continues to prevail.

VISUAL DISTURBANCES OF PSYCHICAL ORIGIN.

APART from the familiar diplopia and polyopia of hysteria there is a little known though well-defined disturbance of vision of central origin to which the term "dysmegalopsia" has been applied. The word signifies defective visual recognition of the real size of objects, which are usually thought to be either larger or smaller than their normal dimensions—macropsia and micropsia are the terms used to denote these changes. Micropsia may occur from paralysis of accommodation, but ordinarily it is due to some lesion in the visual centres, and similarly with macropsia. In fact, two types of dysmegalopsia have been distinguished by Fischer: cortical dysmegalopsia, a condition that follows anatomo-physiological laws, and transcortical dysmegalopsia, which follows psychical laws. The nature of the cortical lesion has not been determined, and indeed the literature on the subject is very meagre; yet the cases that have been described, by reason of the definiteness of the symptomatology, are of the greatest interest. A new instance of the condition, furnishing apparently unique features, is recorded by Dr. Liebscher of the Irrenanstalt in Brünn in the *Monatsschrift für Psychiatrie und Neurologie* for August. His patient was an arterio-sclerotic of 62 with typical involution melancholia, including auditory hallucinations. He complained that everything he looked at was shaking or vibrating, especially if his left eye only was used. Frequently micropsia was observed. Objects appeared to the patient smaller than they really were. Frequently, too, the upper parts of letters of the alphabet placed vertically seemed to him to be "broken" and to be bent to the left. A remarkable feature of the visual defects was that sometimes the left side of any object appeared larger than the right; thus the examiner's face seemed to be swollen on the left side; a square seemed to be an irregular four-angled figure; a circle was drawn out into an ellipse on the left. The patient was unable to indicate correctly the length of objects under certain conditions; when two matches were placed parallel to each other he imagined that one was longer. A curious fact was that the process of vision was associated with a most unpleasant feeling; people he looked at seemed "to be sticking in his eyes," especially if they came near. Repeated ophthalmological examination failed to discover any defect whatever in media, eye movements, optic discs, or retinæ. There was not the

slightest trace of nystagmus, and the patient's eyes were fixed easily and instantaneously on any object presented to him, yet it appeared to him to be shaking or vibrating. The explanation of this interesting phenomenon is thus given by the writer. It is well known that in nystagmus the patient commonly declares the object to be still, although his eyes are moving; in the present case the object seems to be moving although the eyes are still—in a sense the converse of nystagmus. In the case of nystagmus the patient has learned to combine the visual impressions obtained from the stimulation of different parts of the retina into one, whereas it is clear that in the writer's case only one part of the retina is being stimulated, yet the patient gets the impression of a moving picture. The presumption is that hypersensitiveness of the retina leads to its becoming momentarily functionless as the result of what is for that retina too strong a light stimulus; it recovers immediately, but again becomes fatigued by the continuance of the stimulus; thus, as long as the patient gazes fixedly at an object it appears to be "coming and going"—in other words, to be vibrating. In this connexion the phenomenon of star-twinkling occurs to the mind. The hyperæsthesia of the retina is linked to the unpleasant affective tone accompanying the process of vision; the patient complained bitterly if people came too near him. The explanation of the other disturbances is not simple, and would take us too far into the question of spatial projection and false localisation in space.

DOES A BLACK SKIN PROTECT AGAINST MALARIA?

IN a recent issue of a daily paper we find it stated on the anonymous authority of a "well-known London doctor" that blackness of the skin, however produced, protects against malaria, and it is said that "if you are going to a country where malaria is rife stain yourself all over with walnut juice, or black yourself with burnt cork, and you will be less liable to catch the disease." And the explanation is given that the browning of the skin prevents the actinic rays of sunlight penetrating the skin, and so helping the malarial parasite to mature; and therefore we are told "if white men had artificially coloured skins, or even wore black underclothing, they would be in the same position as the natives—protected to a certain extent against the malarial parasite maturing." We should be interested to know on what facts the "well-known London doctor" bases his statement. It is true that, on the whole, the coloured races suffer less severely from malaria than the white races, but we are not aware of any evidence which even suggests that this is due to the colour of the skin. Of course, it is possible that the staining of the skin with walnut juice or burnt cork may have a deterrent effect on the mosquito and so prevent the inoculation of the parasite, but this, we should imagine, was more than doubtful. The immunity of the savage races is probably the result of evolution by selection.

ACUTE PANCREATITIS.

ACUTE pancreatitis is still an obscure disease, and it is generally impossible to diagnose its existence from other acute abdominal conditions until the abdomen has been opened, and even when this has been done the diagnosis is often far from easy. The etiology of the condition is still puzzling. Medical treatment is very unsatisfactory, and though many operations have been performed very few recoveries have been recorded. As to the results of surgical treatment it is hardly safe to base an opinion merely on the recorded cases, for successes are much more likely to find their way into print than are failures. In 1908 Mr. Mayo Robson was able to collect 59 cases in which an operation had been performed, and of these 23 recovered, but these statistics certainly do not represent the true proportion of successes. In the present issue of THE LANCET is recorded a case of acute pancreatitis under the care of Mr. A. E. Barker, in which two operations were followed by recovery. The diagnosis was made during the operation and it was based chiefly on the discovery of patches of fat necrosis in the great omentum. At the second operation extensive fat necrosis was found also in the retroperitoneal tissue, and a large collection of inflammatory fluid was evacuated from the lesser sac. Complete recovery followed, and we congratulate Mr. Barker on the issue of his very interesting and successful case.

THE DIAGNOSIS OF TWIN PREGNANCY: A NEW SIGN.

THE recognition of a multiple pregnancy is often a matter of some difficulty, and although the more frequent practice of abdominal palpation renders the possibility of its being overlooked less likely, yet even at the present day, according to most authorities, it is not recognised before the birth of the first child in more than 50 per cent. of the cases. Capuron, after having been a teacher of obstetrics for 50 years, one day said to Pajot, "There is but one way by which you may know a twin pregnancy; if you have seen one fœtus born and find that there is another in the uterus you may be sure there are twins." We are not nowadays quite so unable to prophesy, but in some cases the certain recognition of the presence of more than one child in utero may be almost impossible. Quite recently, indeed, at a large London lying-in hospital a case was operated upon by Cæsarean section for contraction of the pelvis, and only when the uterus was opened was the presence of a second child discovered. Such mistakes should be rarer and rarer as the practice of abdominal palpation becomes more prevalent and greater skill is acquired in this method of examination. There is no lack of signs which may indicate the presence of a twin fœtation; it is their certain recognition which is so often difficult. The finding of two bags of membranes, the existence of a furrow between the two fœtuses, the presence of too many small or large fœtal parts, the large size of the abdomen, the apparently excessive length of the fœtal axis, and the auscultation of two hearts beating at different rates, while all valuable diagnostic aids, may not be present or their significance may be misunderstood. The diagnosis of a twin pregnancy before labour sets in is a matter of no little importance to the mother and cannot fail to bring credit to the medical attendant. In spite of this, in a very large percentage of the cases the condition is overlooked, and any addition to our knowledge therefore which will prevent such mistakes in future is to be welcomed. Dr. C. J. Gauss believes that he has discovered a sign of considerable importance in this connexion, and in a paper recently published in the *Zentralblatt für Gynäkologie*[1] lays stress upon the presence of an anterior parietal presentation in the case of the first of twins when it is presenting by the head, as a point of considerable diagnostic value. As a result of the small size of the head and of the leverage action produced by the second child upon the body of the first, due to the want of space in utero, he maintains that this presentation is to be met with in no large a proportion of twin pregnancies as to render it of great value. In several cases where the diagnosis had proved impossible by the abdomen the presence of such a presentation has led him to the successful recognition of a twin pregnancy. An anterior parietal presentation, corresponding as it does to a marked degree of Naegele's obliquity

[1] Zentralblatt für Gynäkologie, No. 40, 1910, p. 1281.

and associated with abnormally easy recognition of the anterior ear, occurs so infrequently in a normal pelvis as to render its occurrence in such conditions most suggestive of a twin pregnancy. This sign has the drawback that it is not available until labour has commenced, and it is, of course, only present when the first child presents by the head, but such a presentation occurs in some 70 to 80 per cent. of all twin pregnancies. It should therefore, if further observations tend to show that it is as constant an occurrence as Dr. Gauss supposes, prove of considerable value in helping to make a diagnosis in doubtful cases of multiple pregnancy. The question is well worth further investigation, and in our opinion this physical sign has only one drawback—namely, it involves for its recognition the necessity for making a vaginal examination, whereas most of the other signs of multiple pregnancy can be recognised when present before the onset of labour and by examination of the abdomen only.

GARDEN CITIES AND TOWN PLANNING ASSOCIATION.

IN giving prominence to the appeal of this association for funds in order to establish its work upon a firm financial footing, we wish again to express our approval of the objects which it seeks to accomplish and the means adopted. The operation of the new Housing and Town Planning Act calls for serious and zealous attention, and this association is largely responsible for the great practical interest now being taken in garden city and garden suburb schemes. But useful and praiseworthy as are the efforts to create garden suburbs and garden villages, it would be a grievous mistake to treat them all alike as entirely satisfactory compensations for the detrimental conditions as to health and physique under which the dwellers in large manufacturing towns suffer who are divorced from nature. There are garden suburbs and garden suburbs. The development of the true garden city scheme depends upon the decentralisation of industry; this scheme affords the artizan the opportunity of combining the advantages of town and country life, and as the welfare of our race in the future depends upon a satisfactory solution of the difficulty of securing healthy and happy conditions of life for the industrial worker and his family, it is sincerely to be hoped that the Garden Cities and Town Planning Association, 32, Birkbeck Bank Chambers, W.C., the only society which advocates and organises the control of a separate town or city with a fixed relation to surrounding agricultural land, will receive that measure of support which its treasurer, Mr. Francis E. Fremantle, claims from all those who feel the importance of the subject in its physical and moral aspects.

SPEECH IN CASES OF CUT-THROAT.

IN THE LANCET of May 22nd, 1909, p. 1501, a letter appeared detailing a case of cut-throat in which the question arose whether it was possible for a person whose larynx had been divided above the vocal cords to speak so as to be understood. We then, in commenting on this case, expressed the opinion that the speech of such a patient might be quite comprehensible. In the *China Medical Journal* of May this year Dr. E. M. Merrins of Wuchang has reported a case in which a man attempted to kill himself by cutting his throat. The knife passed completely through the larynx just above the true vocal cords. An attempt was made the next day to suture the severed thyroid cartilage, but the patient tore the wound open and no further operative treatment was adopted. Dr. Merrins tried to see what power of speech the man possessed. The attempt was made about a fortnight after the injury, but the wound still gaped wide above the vocal cords. With the wound exposed he was able to speak so as to be easily understood, but it was a weak whisper. When the throat was bandaged he was able to speak much more distinctly, and when the neck was flexed so as to close the wound he was able to speak clearly and well. The question of the possibility of comprehensible speech after a severe cut-throat wound may easily be of great medico-legal importance, and we believe that all surgeons who have had much experience of cut-throats will agree with the opinion we expressed last year, that comprehensible speech is perfectly possible, even though the larynx is divided immediately above the vocal cords.

DEATH AFTER THE REMOVAL OF TONSILS AND ADENOID GROWTHS.

IN the *American Journal of the Medical Sciences* for September Professor Francis R. Packard has reported a remarkable case of death following the removal of the tonsils and of adenoid growths. He finds that a mistaken impression prevails among general practitioners that the operation is comparatively safe. He regards the operation as so serious that he thinks it ought to be performed in hospital instead of at the patient's home. Ether he believes to be the safest anæsthetic, and he has never known a case of death which could be attributed to it, though he has personal knowledge of three cases in which death occurred after the administration of chloroform, in which nothing else had been done which could have been fatal. Except in cases where he is certain that his directions will be rigidly carried out regarding preparation for operation, he requires his patients to enter hospital the day before operation, and after operation he keeps them there for at least 24 hours longer if there is any elevation of temperature or other important symptom. The following is the fatal case which Dr. Packard uses as the test for his remarks. A girl, aged three years, was brought to him with the history that she had been perfectly healthy until a year ago. During the past two months she had suffered from frequent coughs and colds, and constantly slept with her mouth open. She had become languid and had little appetite. On examination she was apparently healthy except for a somewhat sallow complexion. This her mother attributed to frequent bilious attacks. The tonsils were rather large, with wide-open crypts, some of which contained cheesy material. Digital examination showed a large soft mass of adenoid tissue blocking the naso-pharynx. The heart and lungs were normal. At 1 P.M. on Sept. 30th, 1909, she was anæsthetised for operation. The anæsthetisation was started with ethyl chloride and followed by ether given by the drop method until she was unconscious. Then the ether was administered by a vapourising apparatus through a metal mouth-piece. There was much mucus in the nose and throat during the operation. The total amount of ether used was three ounces. The tonsils were loosened on both sides by blunt dissection. The left was removed by digital manipulation and dissection with scissors. The right was removed with a small guillotine after freeing it from the surrounding tissues. The adenoids were then removed with a forceps. Considerable bleeding followed, but at the conclusion of the operation there was no active bleeding. The anæsthetisation lasted 14 minutes and the child was on the table 10 minutes. About 30 minutes after the operation, when she was recovering from the anæsthesia, her pulse was good. At 4.30 P.M. her throat was examined and no bleeding could be seen. At 5.30 the nurse noticed that her colour was not good, but there was no evidence of bleeding. The pulse was good and she seemed in fair condition. At 6.30 the temperature had risen to 100° F., the respirations to 36, and the pulse to 156. A tongue depressor was inserted to see if there was any bleeding, and this caused her to vomit. Something appeared to occlude her larynx, and tracheotomy was performed, but no cause of obstruction could be found, and the child died

about 7 P.M. A necropsy was not allowed. Professor Packard regards it as practically certain that death was due to the status lymphaticus.

THE MYSTERIOUS DISEASE IN SUFFOLK.

A COMMUNIQUÉ has been received by the press from the Local Government Board dealing with four deaths which occurred over a month ago at Freston in Suffolk. As a result, the fact has now become public that there were grounds for believing these deaths to have been due to plague, the pneumonic symptoms, which were puzzling, being capable of explanation in this way. We were glad to observe that the occurrence of these deaths caused little comment at the time, as undoubtedly considerable public apprehension, and much of it of a needless kind, would have been aroused by the belief that plague had established a foothold in this country. Nothing of the sort has happened. A bacteriological examination was made in regard to material taken from two of the patients, and although opinions were not unanimous, it certainly seemed possible that the pneumonia had been due to plague. Subsequently rats and hares found dead or dying in the same locality have been examined on behalf of the Local Government Board, and of these three rats and one hare have been found to be infected with plague. In consequence the rural district council has held conferences with Dr. H. T. Bulstrode, of the Local Government Board, and every sort of systematic effort to destroy rats and remove accumulations of refuse is being undertaken in the most thorough manner. Having regard to this activity on the part of the authorities, and to the fact that no cases of human illness suspicious of plague have occurred since Sept. 26th, we feel justified in saying that there need be no serious anxiety about the outbreak.

THE CONSERVATIVE SURGERY OF THE EXTREMITIES.

IN the last Archives of the Middlesex Hospital Sir Henry Morris has emphasised the value of conservative treatment in injury and disease of the extremities. In cases of severe injury to the hand he has refused to amputate when sent for to do so, and practised conservative surgery with gratifying results. His rule is not to amputate through the forearm for an injury of the hand because of extensive laceration of the skin, crushing of the fingers, and fractures of the phalanges if the main vessels and nerves at the wrist are not damaged. He simply trims away skin or parts of digits that are hopelessly beyond recovery, and for the rest cleans the part thoroughly and wraps the whole hand in lint soaked in carbolised oil. Afterwards, instead of removing the lint he daily re-saturates it by pouring on fresh carbolised oil. In this way he has allowed the same lint to remain covering the injured part for 8, 10, or 14 days or longer. When the lint is taken off it will be evident what tissues will recover and what will have to be removed, either by nature alone or assisted by surgery. To save even only one digit will generally provide a more useful extremity than a hook or any form of artificial hand short of the most elaborate and costly. Occasionally there may be disappointment, and the removal of a cumbrous bone or a stiff and useless finger may be necessary. But, as a rule, the surgeon will be gratified by the patient returning after some time, perhaps years, to express his gratitude and show with pride the use he can make of his partial and unshapely hand. It is, of course, important to save any part, even the merest stump, of the thumb. If the muscles which oppose the thumb to the digits be not entirely damaged, and especially if any part of any one of the fingers has been spared and its flexor and extensor tendons still have some action, it is wonderful to what varied and great use this remnant of a hand can be put. Sir Henry Morris was one day accosted by a railway porter who showed him with great thankfulness a hand consisting of a broad, strong palm and a stunted thumb and little finger. Many years before he had been sent for to amputate the forearm, but had only trimmed off some skin and fingers. The man had been able to do all his work satisfactorily. In operations on the extremities for disease, such as caries, necrosis, and tumours, Sir Henry Morris also recommends conservatism. A young woman came under his care in 1876 with myeloid or endosteal sarcoma of the lower end of the radius. Instead of amputating he excised the lower ends of the radius and ulna, and left the patient with a very useful hand. There was never any recurrence, and she brought up a large family and used her hand well for housework. Loss of more or less of the foot is not so important as a corresponding loss of the hand, but Sir Henry Morris advises here conservatism also in injury and disease of the lower extremities. Though the movements of the hallux are much more restricted than those of the thumb, the advantages of a foot as entire as possible, both for security in standing and for spring and elasticity in walking, are considerable.

AT the Surgical Section of the Royal Society of Medicine on Nov. 8th a debate will be held on "The Treatment of Fractures in the Neighbourhood of the Joints." The discussion will be opened at 15, Cavendish-square, W., at 5.30 P.M., by Mr. Robert Jones (Liverpool). Fellows and members of the section who wish to take part in the debate are requested to send their names to the senior honorary secretary of the section, Mr. Jonathan Hutchinson, 1, Park-crescent, London, W.

THE TREATMENT OF SYPHILIS WITH EHRLICH'S DIOXYDIAMIDOARSENOBENZOL.

BY SANITÄTSRAT DR. WILHELM WECHSELMANN,

PHYSICIAN IN CHARGE OF THE DERMATOLOGICAL DEPARTMENT OF THE RUDOLF VIRCHOW HOSPITAL IN BERLIN.

(*Translated for* THE LANCET.)

Professor Paul Ehrlich has for several years been engaged in systematic attempts to discover chemical substances which might be serviceable in the treatment of certain infectious diseases—namely, those in which the natural recuperative powers of the system, assisted by the formation of specific antibodies, are unable to bring about a restoration of health. The new system of treatment has been called chemotherapy, and in the preliminary investigations hundreds of chemical compounds were prepared and tested on infected animals without satisfactory results being obtained. All of these earlier preparations acted destructively on the antibodies; while attacking the protoplasm of the parasites they caused organic lesions in the animals. It therefore became necessary to discover substances capable of destroying the parasites, or, which comes to the same thing therapeutically, capable of hindering their propagation—a mode of action which Ehrlich has called sterilisatio magna—and at the same time not injurious to the patient, at least in the doses required for the destruction of the parasites. Among hundreds of such preparations it was found that dioxydiamidoarsenobenzol in its action on spirillosis in animals was the one which best fulfilled these conditions.

Dr. Hata, to whom Professor Ehrlich entrusted these experiments, found that after the remedy was taken into the system the spirilla of fowl spirillosis and of relapsing fever disappeared immediately; in observations on rabbits it was seen that primary ulcers swarming with spirochætæ healed rapidly, and in 24 hours the animals were free from spirochætæ. With the object of bringing the remedy into use for the treatment of patients

Alt made many trials of it on paralytics. These observations showed that the substance, which was in every instance tolerated by monkeys in doses up to 0·15 gramme per kilogramme of the animal's weight, had no poisonous action on the human subject in doses varying from 0·3 to 0·5 gramme. Iversen then reported gratifying results in relapsing fever, and Schreiber observed that the symptoms of syphilis very soon disappeared under treatment with this preparation. In March of the present year Professor Ehrlich sent me a sample of it for further trial. I soon recognised that in some instances recovery was possible in the case of suckling infants infected with syphilis and so invaded with spirochætæ that a fatal issue seemed inevitable; necropsy of those which perished revealed no evidence of arsenical action on the internal organs. Several observers, such as Truffi, Pazini, and especially my assistant Dr. Siesskind, have proved that the spirochætæ disappear from papules and primary affections, in some cases after 24 hours, while in other cases they still exist after days. Iversen has lately made similar observations in preparations of glands.

At the present time there is a great distrust of new arsenical preparations. It was therefore necessary to prove that the new remedy was far superior to others of a like kind, and I began by trying it on incurable cases. In the year 1906 a male patient, aged 18 years, came under my care on account of a malignant form of syphilis which did not yield to injections of calomel and Zittmann's treatment. He was next attended by Professor Buschke, and in October, 1906, he had a syphilide of a cockade pattern on the body, ulcerative invasion of the fauces, thickenings of the bones, and more particularly on the glans and on the penis eight deep ulcers as large as peas. Inunction, sajodin, injections of calomel, arsenic, steam baths, sulphur baths, and iodide of potassium were employed, but with so little success that in February, 1907, the patient's temperature continued for more than a week at 39° C. and the invasion of the fauces progressed. Inunction was resumed in March. On April 28th the eruptions had healed up in some places, partly by granulation, but those on the head were unchanged; the uvula had disappeared. Zittmann's treatment and iodipin were employed from April 28th to May 7th. Injections of corrosive sublimate were given on May 23rd and atoxyl subsequently, the latter being limited to three injections of 0·2 gramme; two courses of inunction were at the same time resolved on. Having refused further treatment the patient was discharged on July 6th. The ulcers of the fauces had in great part healed up with the formation of immense cicatrices, and some of the syphilide was also healed, but a patch about the size of a German mark (a coin similar to an English shilling) remained on the gluteal region. He very soon had to seek admission to the Charité Hospital, where he was treated with ten injections of atoxyl and six injections of calomel. In November he entered the Lichtenberg Sanatorium, where he had 32 inunctions, iodide of potassium, and sajodin. In April, 1908, destructive ulceration of the penis made its appearance. On May 20th he returned to the Virchow Hospital under Professor Buschke, and was treated with injections of arsenic, injections of calomel, iodised casein, iodide of potassium, and inunction. On August 31st he was discharged at his own request. In November and December of the same year he was treated in the Charité with calomel. From February to June, 1909, he had treatment with inunction in Lichtenberg. In August, 1909, he was again in the Virchow Hospital under Professor Buschke. From October to December he was treated in Lichtenberg with inunction and calomel. From January to March, 1910, he had the Josef treatment with inunction and iodide of potassium. It is therefore certain that every possible form of treatment had been employed without benefit.

On April 2nd, 1910, the patient was admitted into my wards. The miserable man then had on the inner side of the upper part of the thigh a bluish-red patch, partly cicatricial and partly ulcerating, about the size of the palm of a small hand; he had also on the crown of his head a similar patch measuring 2 centimetres by 6 centimetres diagonally with slimy serpiginous ulcers; several bones showed thickening, and there was ulceration in the throat. On the penis there was open slimy ulceration of the skin, the glans, and the ventral surface of the penis down to the fascia. He said that since the commencement of the disease in 1906 the penis had been superficially sound for only a few days. On April 13th he was given 0·25 gramme of Ehrlich's new remedy No. 606, whereupon rapid recovery began. After about four weeks the skin of the penis was lost once more (*zerfiel noch einmal*) and at the same time there was a thickening at the lower end of the right radius. On a second injection of 0·45 gramme being given on June 27th this healed in two days and the penis was almost completely covered with new skin after a third injection on August 8th. The patient was now quite recovered and fit for work.

A very similar history is recorded in the following case of incurable lues:

CASE 2.—A working girl, 25 years of age, was, in July, 1905, affected with lues and had received several inunctions and injections in the Charité. For years she had not been able to hold her fæces. On May 5th, 1909, she was received in my wards of the Virchow Hospital in very poor condition. She had a number of foul ulcers, each about two-thirds of an inch deep and 5 inches long, arcuate in form, mounting from the posterior commissure high upon the nates. There could be seen a few evidences of healing in the form of atrophic scars on the margin of which the progressing ulcers were located. The rectum was very much infiltrated, and showed two strictures which hardly admitted a finger, and upon which deep ulcerations were visible. Wassermann reaction, + + +; weight, 45 kilogrammes. She received five calomel injections, but they had to be given up on account of diarrhœa. Potassium iodide was continually given. From May 12th she received inunctions; the incontinence was somewhat improved; weight, 40 kilogrammes. The ulcers received treatment with the Roentgen rays. The patient left the hospital on July 3rd, although her condition was hardly improved, but returned after four days' absence. She then received calomel injections and local treatment with calomel, as she could not very well stand metallic mercury. On May 4th the patient received 0·3 gramme of Ehrlich's 606. After a few days a cleaning up and healing of the large abscesses commenced, and on May 18th the ulcers were entirely healed, with the exception of a few very small places on the right side. At the same time the condition of the rectum improved, and the rectoscopic examination showed only a simple erosion on the stricture. The general condition was very much improved; the weight remained at 40 kilogrammes. After a second injection the small erosions of the right side were almost entirely healed.

CASE 3.—A man, 23 years of age, showed seven months ago the first effects of syphilis; four weeks later there appeared an exanthem. From Nov. 28th, 1909, until the middle of March, 1910, he received 35 injections of mercury salicylate and calomel. For the past three months he had suffered from pains in both knee-joints. On May 5th, 1910, the patient was received into my wards in a very poor condition. He was very much emaciated, and his skin had the appearance of that of a corpse. The face looked like a Death's head with an expression depicting the highest pain. The whole body and face were covered with ulcerations, incrusted, which reached through the skin into the subcutaneous tissue, together with scars. There was a fœtid smell from the nose. The septum was perforated; the left concha and vomer were ready to drop off. There were large ulcerations in the naso-pharyngeal region, and the uvula was destroyed in its left side. The patient could hardly swallow, on account of the extreme pain, and had to be fed by injections through a tube. The pulse was very small and of poor quality, 120 and over. We did not dare to give an injection, but as his condition grew steadily worse under iodipin injections and as the end was to be expected in the very near future, 0·4 gramme of Ehrlich's 606 was injected on May 21st. The temperature did not rise and the pains did not amount to much. After two days there appeared a great improvement in his general condition, and on May 26th the beginning of a cure was everywhere apparent. On May 30th the uvula had healed. The ulcers were entirely healed. The bony support of the nose had been thrown off *in toto*; the fœtor had disappeared. On June 7th the patient could swallow and could walk around. His weight was, on May 21st, 41·5 kilogrammes; on June 5th, 42·5; and now 57 kilogrammes. He was discharged as cured.

From this time onward all the syphilitic patients were treated with the new remedy, and the symptoms almost always disappeared very quickly. Up to the present time I have treated over 1100 patients. Eroded chancres become clean after from 12 to 24 hours; in cases of marked sclerosis the cleansing process takes place with equal rapidity, but absorption requires longer. There were only four instances in which an exanthem appeared after the healing of the primary sore; in two of these patients it was seen to have disappeared spontaneously on the first and seventh day respectively after the injection, and the two other patients received a second injection. The plaques muqueuses of the mouth heal up in from 24 to 48 hours even if the patient smokes continually. Roseola fades in a few days, and the same occurs with malignant ulcerative syphilides, rupia, moist papules, the small papular syphilides which are under other conditions so refractory, and gummata. The large papular syphilides disappear more slowly, and with them a second injection is often necessary. The results are very favourable in syphilitic disease of the bones, nocturnal pains in the bones disappearing as if by magic.

This sudden stopping of the pains at certain hours can be explained only as the result of a killing of the spirochætæ, as the peculiar appearance of the pains in the bones during the night's rest can be explained only as a biological demonstration of the parasites. In view of experience with other

arsenical preparations, we could not but fear for the optic nerve. We therefore see that every patient has his eyes examined by a specialist before we give the injection. In cases in which there are changes in the optic nerve—a circumstance which quite often occurs—we have not given an injection save as explained below. According to animal experiments, a toxic influence upon the optic sphere is not very probable. It has been demonstrated that some aromatic arsenical derivatives produce in mice peculiar disturbances of coördination, these mice become dancing mice. Rötig has proved that these dancing mice show degenerations of the vestibular nerve, and some of them degenerations of the optic tract. These changes do not appear with the new remedy. And clinical observation seems also to favour the opinion that "606" can be used even in cases of diseased optic nerves. One of our first patients had not been examined for her eyes. After the injection it was found that she had received in my wards an inunction treatment, at which time the optic nerve on each side had had a dim margin and was venously hyperæmic (neuritis optica). The patient remained without any pathological affection of the fundus oculi and retained her full vision (Dr. Fehr).

Lately we have also seen that patients who have been treated with atoxyl or arsacetin stood "606" very well; in these cases also there was not observed any affection of the ocular organ, and this refers to several thousand cases. Even when there was a suspicion of the optic nerve being affected, and in patients suffering from atrophy of it, I have ventured to give an injection on the urgent request of the patient, whom I had made aware of the possibility of danger; this I did in the hope of checking the pathogenic process, and there has not up to the present time been any ill effect. It is even probable that recent optic neuritis may have to be treated with the new remedy as being of syphilitic origin; this is much more frequent than is generally supposed, and in our systematic examinations of patients suffering from secondary syphilis we have found it in about 3 per cent. of the cases. Incomplete recovery from this condition will probably be a factor in subsequent degeneration.

On other diseases of the eye, such as iritis and choroiditis, the remedy has an effect; in parenchymatous keratitis it may occasionally lead to some improvement, but is often of no use—probably because the slight vascularity of the tissue hinders the penetration of it by the remedy. Visceral syphilis, gummata of the testicle, syphilitic tumours of the larynx, icterus, epileptiform attacks of syphilitic origin, cerebral syphilis, paresis of the trochlearis and abducens muscles, and pulmonary syphilis were very favourably influenced. In tabes the subjective improvement was very great; there was almost always a diminution of the shooting pains which are often extremely severe, the unsteadiness of the gait became less, and incontinence of urine due to weakness of the bladder decreased. Whether the remedy produced these results by suggestion or by virtue of its salutary properties is not yet determined. Among the objective improvements a return of mobility in rigid pupils could be absolutely demonstrated in recent cases, but where degenerative processes were present this did not occur. The remedy may always be tried in tabes, because in this disease syphilitic changes amenable to treatment may co-exist with the sclerotic processes, and for the same reason a trial of it may be made in recent cases of progressive paralysis; in advanced cases I have not as yet seen any good result. Very advanced degeneration of the central nervous system and serious disorders of the heart and vascular system are to be regarded as contra-indications. According to our observations, made in conjunction with Professor Nicolai, the injection often leads to a fall in the blood pressure, and this may occasionally in cases of cardiac debility be very dangerous—a circumstance which deserves careful attention, because in particular cases symptoms of hypersensitivity were observed by us about the eighth or ninth day. These patients had a high temperature, reaching over 41° C., together with either (1) an exanthem resembling that of measles or scarlet fever, or (2) an enanthem causing pain in the throat (*angina*). All these symptoms disappeared in a few days, but they might signify danger in cases of weak heart.

One of the principal difficulties in the introduction of Ehrlich's dioxydiamidoarsenobenzol into medical practice has been the fear that repeated administration of it in small doses was dangerous on account of the possibility that symptoms of hypersensitivity might make their appearance. There was a similar dread of the repetition of somewhat large doses, on account of results obtained by actual experiment in cases of trypanosomiasis. Experience has proved that both of these anticipations were groundless. The case mentioned at the beginning of this article showed that the insufficient action of the first dose of 0·25 gramme—a dose which was certainly too small—could be thoroughly compensated by subsequent injections, and that no hypersensitivity ensued therefrom. In view of its immense therapeutic efficacy in general and of its failure in exceptional instances only, it may be supposed that in the latter the absorption of the remedy has been hindered by local anatomical conditions. It seems probable that pathogenic foci of this kind are more readily amenable to a reinjection with a dose varying from 0·5 to 0·6 gramme than to a single dose of greater amount; it has been found that the quantity just mentioned is in general sufficiently active. A portion of the relapses may be due to encapsulated foci of disease inaccessible to the remedy. The occurrence of relapses is unquestionable, but in my experience of many hundred cases of syphilis extending over more than six months the early relapses seem to show themselves much less frequently than under mercurial treatment. In particular they seldom take the form of an extensive recurrence of cutaneous lesions, but generally that of relapses in isolated foci, especially as plaques muqueuses in the throat, iritis, choroiditis, and paresis of the trochlearis and abducens muscles, which yield to a new injection. Whether permanent recovery has been attained or not is naturally undetermined, because the period of observation has been too short for the purpose.

The Wassermann reaction usually disappears, as has been stated by Alt, and my assistant, Dr. Lange, has found that a time from eight to 40 days is necessary to produce this effect, according to the primary severity of the reaction. In some of the cases this reaction has not reappeared so far. In five cases of absence of the Wassermann reaction in absolute lues a positive reaction appeared after the injection, to disappear again. I take such cases to be those of obscure reaction in which collections of quiet spirochætæ have been set free by the injection and have carried their specific matter into the circulation. These observations are very much in favour of a specific factor in the Wassermann reaction.

As to the technique, Iversen and Schreiber prefer the intravenous administration, which, carefully carried out, is painless, but is followed by shivering, vomiting, and pyrexia. I therefore prefer the subcutaneous administration according to the method developed by Dr. Lange and myself.

The substance No. 606 is dissolved by rubbing in a mortar with from 1 to 2 cubic centimetres of commercial solution of soda; the addition of glacial acetic acid drop by drop then throws down a precipitate in the form of a fine yellow mud which is in the next place suspended in from 1 to 2 cubic centimetres of sterilised distilled water and the fluid is neutralised by decinormal soda solution or acetic acid of 1 per cent. strength, the reaction being very carefully observed with litmus paper. The painlessness of the injections depends on the exactness of the neutralisation. We therefore centrifugalise the suspension, pour the fluid off, and afterwards make a suspension of the yellow mud in physiological salt solution. The suspension is drawn up into the syringe and slowly injected subcutaneously at a point below the shoulder-blade, the place having been previously disinfected and touched with tincture of iodine. A little pain often continues for some minutes after the injection and local lesions are not uncommon.

The new remedy, like all arsenical preparations, is an irritant and therefore often causes inflammation; this usually heals up with induration and thickening, but in some patients with sensitive tissues aseptic necrobiotic processes are set up which run a very slow course. For this reason it is desirable to perform the operation as gently as possible.

My experiences have been confirmed in every respect. It may therefore now be taken as certain that the value of the new remedy is great, nay, more, that it is indispensable, and its danger is shown to be small. Further work will make known the limits of its efficacy, but under all circumstances the discovery of it and the creation of chemotherapy form one of the greatest and happiest events in the history of the natural sciences.

THE EGYPTIAN PUBLIC HEALTH DEPARTMENT.[1]

The Budget of the Public Health Department.

THOUGH this is called an annual report, it appears from the preface that none has been issued since 1906, but we hope that Mr. W. P. G. Graham, the new Director-General, will find time to edit a similar report in succeeding years, for the work done by his officers, especially in controlling plague, must be of general interest to our readers. Unlike most spending departments of a Government service, the total expenditure for 1909—£290,190—was some £8000 less than the ordinary Budget as fixed by the Ministry of Finance. But there were in addition some special credits amounting to more than £105,000, about three-quarters of which were expended on fighting plague and rinderpest and on building a new lunatic asylum. These figures compare very favourably with the annual Budget of £60,000, which was all the Egyptian Government could afford when the first Englishman was appointed to the reformed Public Health Service in January, 1884.

Mr. Graham pays a graceful tribute to his ten divisional inspectors, whose duties are "to act in the provinces as the eyes and ears of the Central Administration." No fewer than four of these inspectors have in recent years lost their lives while in execution of their duties in dealing with diseases such as plague and diphtheria, while a fifth inspector has lately been invalided as the result of disease contracted in the course of his work in the country districts.

The in-patient and out-patient departments of the Government hospitals become more popular every year, and attention is again drawn to the inadequacy of Kasr-el-Ainy Hospital in Cairo, which is an old-fashioned building unworthy of the seat of the Medical School and of the head-quarters of the medical profession in Egypt. There can be little doubt that funds should be provided by the Government for its reconstruction. In the list of diseases notified by the medical officers of infectious hospitals and ambulance services we see that the term "typhic fevers" is used, evidently a translation from the "*fièvres typhiques*," which signifies perhaps that the Egyptian doctors are still in doubt as to whether an outbreak consists of typhus or relapsing fever or a combination of both.

Among the strange anomalies for which Egypt is famous—and it may be remembered that Lord Milner once described Government work in Egypt as a comic opera—it appears that there is no legal power to punish a medical man who gives false certificates of death. We read of a doctor who issued a certificate of the death of a person whom he had not seen, and who was proved to have subsequently recovered from his illness; the facts were reported to the legal authorities, but the action of the medical practitioner was found not to come within the provisions of the existing law!

Ophthalmia, Plague, Infectious Diseases, &c.

We have previously referred in these columns to the endeavours to cope with the all-prevalent ophthalmia in Egypt by the travelling tent hospitals, originally set on foot by the generosity of Sir Ernest Cassel, which take medical aid literally to the door of the fellaheen. The eye patients regularly treated during the year in five provincial towns amounted to more than 12,000, while more than 3000 cases of trichiasis were operated upon and cured. The eye hospital at Tanta dealt last year with nearly 5000 new cases, while 1763 major operations and 2418 minor operations were performed in the hospital, which is the direct outcome of the work done by the travelling tent hospitals. Similar eye hospitals are now being built in Assiut and Mansura partially subscribed for by the local inhabitants. One satisfactory point in connexion with this work is that more than a third of the persons attending for treatment are under the age of 15, and it is hoped that much good will be done by dealing with diseases of the eye in the various Government schools. Attention is being directed to the equally important question of infant mortality, for in the spring of 1909 the death-rate of children under the age of one year rose from a weekly average of 104 per 1000 to 654 in May and to the maximum of 700 in one week in June. The chief cause of death was summer diarrhœa, due apparently to improper food, such as melons, bread, and unripe dates, and to the all-pervading domestic fly.

The plague figures show a marked decrease, both in the number of cases attacked and in mortality, while there were only nine cases of pneumonic plague in 1909, as compared with 168 in 1908, and 250 in 1907. The general measures adopted in Egypt which have successfully kept the plague within reasonable bounds are: (1) Isolation of the sick; (2) disinfection of the persons, clothing, and bedding of "contacts"; (3) isolation of contacts in pneumonic and septicæmic cases, and of suspect contacts in bubonic cases; (4) disinfection of the field of contagion; and (5) measures against rats. During the 11 years that plague has been endemic the number of officially reported cases is 6237, of whom rather more than one-half have died. The question of inoculation against plague has again been considered, but it was felt that its general employment would be so unpopular as to make it of little value. There were 453 cases of small-pox in Cairo alone, in spite of the fact that the vaccine institute distributed more than one million units of vaccine throughout the country. Measles and diphtheria are apparently on the increase, and 8166 doses of diphtheria antitoxin were issued by the Public Health Department. There were two marked local outbreaks of enteric fever, one of which was due to a carrier, a European waiter employed in a hotel, and the other was caused by a local infection occurring in an emergency water cistern on the roof of the building.

Preventive Measures against Malaria and Cholera.

Anti-mosquito measures have been carried out to some extent in Cairo, Port Said, Suez, and Ismailia, the two latter towns having an old reputation for malaria. The report says that a mosquito campaign in Cairo and its suburbs is practically "a luxury," because malaria, yellow fever, and filariasis are almost non-existent, but the writer seems to have forgotten that dengue is often present in Cairo, and that there is much proof that this disease is conveyed by a mosquito. The malaria-bearing mosquitoes are not usually met with in Cairo except between August and November, when there is a rise of the subsoil water during high Nile. In Suez an anti-malarial society, organised by Dr. J. E. Creswell, has proved of much value. Fortunately for Egypt, when malaria arises in that country it is of the benign tertian variety, and although it would be a distinct comfort to the inhabitants to be able to dispense with mosquito curtains, as is the case in Khartum, it cannot be pretended that anti-malarial measures should occupy the chief energy of the public health officials.

The completion of the Hedjaz railway, which is utilised by pilgrims returning from Mecca, increases the anxiety of those who are responsible for the protection of Egypt from cholera. The burden falls upon the Quarantine Department in the first place and the Public Health Department in the second place. To the latter must be accorded the powers of control of possibly infected pilgrims arriving from infected countries and of submitting them to sanitary surveillance for the necessary number of days. This is essential, when it is remembered that in all the investigated outbreaks of cholera in Egypt the disease seems to have been imported there from the Hedjaz. The control of passengers at the port of arrival seems to be all-important and, when tried, has not met with much opposition. Dr. Creswell writes somewhat humorously from Suez on this point: "In the game of hide-and-seek which we annually play with the pilgrims it is well to recognise that they have the advantage of position. Any ill-advised measure which they do not like always fails, and it is to our advantage to meet their wishes in every way we can. The key to the control after their return is proper registration before they leave."

Water-supply.

The Cairo water-supply, a question which has occupied public attention in Egypt for five years, and which was referred to at length by the Special Sanitary Commissioner of THE LANCET (in June, 1909), has now received a solution. The new intake of the company has been fixed at a point below Cairo, 100 yards from the river bank, and therefore in full stream of the Nile, and four modifications of the Jewell system of filtration have been adopted. As no surface-water

[1] Annual Report for 1909 of the Department of Public Health in Egypt. Cairo. 1910. Pp. 131.

drainage or domestic sewage is to be allowed to enter the Nile the site of the intake is less dangerous than it sounds. Ever since 1884 the Public Health Department has been urging on the Government the necessity of draining Cairo, but it is only now that the work has been begun by the negotiation of several preliminary contracts.

The Jewell mechanical system of filtration has been found to be a great success in Alexandria for the last ten years, though that city is dependent upon water "derived from the Mahmudia Canal, which is probably the foulest canal in Egypt." Shone's compressed-air system of drainage has been recommended for the town of Port Said, where the subsoil water is seldom more than three feet below the surface, and where the cesspools were full of mosquitoes until the petroleum method of dealing with them was introduced.

Various Matters.

The goats of Port Said are all being examined by the agglutination test for the presence of Malta fever, and the first lot of 100 goats gave as many as 12 positive reactions. After deducting 82 people whose treatment was not continued because it was found on investigation that they had not been bitten by rabid animals, there remained 612 persons who were treated at the Antirabic Institute during the year. Of these, eight were bitten by animals proved by microscopic examination and by experiments to have rabies. The comparatively high mortality during 1908 compelled Dr. Bain, the director of the institute, to strengthen the vaccine by using material considerably fresher than that used at the Pasteur Institute in Paris, and he believes that he will have still further to strengthen it, for five of the people he treated died in spite of his efforts.

The report is enriched by six typical photographs of pellagra, a subject at which Dr. R. G. White has been working for a few months. He concludes a preliminary report as follows: "Judging from the work so far done one feels only justified in saying that at least damaged maize as found in some of the villages, and presumably used for food purposes by the poorer fellaheen, seems to cause a condition of the nature of a toxæmia. Whether this is due to some poison elaborated by a fungus growth in the grain or to the fungus itself only further research can decide." There are said to be 6500 lepers in Egypt, and it is now proposed that all beggars and vagabonds affected with leprosy should be strictly isolated, and also that certain restrictions should be made as to the occupation followed by lepers, but for all this a new law will be required.

Need of Scientific Investigation in Egypt.

There are few countries in the world that offer so attractive and untouched a field of scientific investigation as does Egypt. The most valuable asset to the land, the labourers on the soil, are decimated by the infectious diseases with which it is the duty of the department to cope, but the initial causative factors of a great many of these are still unidentified. This is the work of the Hygienic Institute, founded in 1896 by Sir John Rogers, and it would readily repay the Government to make such sacrifices as are necessary to place a work of this kind on a sound financial footing. There is no lack of useful experimental and investigational work to be done, but the work awaits a suitable series of laboratories and an adequate staff to undertake it. As the Director-General states so forcibly in his conclusions, the calling of the sanitary expert is a modern one and preventive medicine a modern science. The Egyptians are eminently a people of tradition and habit, and this fact must be taken into consideration in determining the direction in which any given movement shall advance with success. There are three measures upon which efforts should for the present be concentrated. Firstly, a sound organisation of the department upon a wide basis and the employment of Englishmen for much of the scientific and administrative work; secondly, the elaboration of a Public Health Law which shall clearly distinguish between *compulsory* regulation and optional powers granted to local authorities; and lastly, the organised extension of research work in connexion with the recognised diseases of the country, and requiring for its realisation the financial assistance of the Government.

REX *v.* CRIPPEN.

THE trial of Hawley Harvey Crippen, lately the agent in this country for the Munyon Remedies, and stated to possess in America a diploma from a homœopathic institution, who was indicted on the charge of murdering his wife Cora Crippen, known in the theatrical world as Belle Elmore, was opened at the Old Bailey on Oct. 18th and lasted five days, when on Oct. 22nd the Lord Chief Justice passed upon Crippen the sentence of death.

Mr. R. D. Muir, Mr. Travers Humphreys, and Mr. S. Ingleby Oddie represented the Crown, and the prisoner was defended by Mr. A. A. Tobin, K.C., Mr. Huntley Jenkins, and Mr. Roome.

The Case for the Crown.

Mr. Muir, in opening the case for the Crown, told the story of Mrs. Crippen's disappearance, as explained by Crippen. Inquiries from Scotland Yard led to the flight of Crippen, immediately after which human remains were found in the cellar at Hilldrop-crescent, the residence of the Crippens. Mr. Muir described Crippen's flight to Canada with Ethel Le Neve and the investigation of the headless, limbless, and boneless remains made on behalf of the Crown. He suggested Crippen's motive to get rid of his wife was that he might consort with Le Neve. Belle Elmore had totally disappeared, and Crippen, who was the only person who professed to explain the disappearance, admitted that his first account of the matter was totally false. Mr. Muir said that he would show that the mutilated remains had been dissected by a person possessed of such knowledge and skill as Crippen might be presumed to have; that there were circumstances in their appearance which made it probable that they represented the corpse of Belle Elmore; and that the remains contained a poison—namely, hyoscine—which it was known that Crippen had purchased in a large quantity.

We need not tell in detail a long and thrice-told story, but, as bearing upon the scientific evidence, which we narrate at some length, the following two things should be remembered. One of the witnesses for the Crown said that she had seen on Belle Elmore the mark of an old cut about six inches long running from the lower part of the abdomen upwards to the navel. Representatives of a firm of druggists proved that Crippen had purchased five grains of hyoscine hydrobromide shortly before the suggested date of the murder.

The Medical Evidence.

On July 14th, 1910, Mr. A. J. Pepper and Dr. Thomas Marshall visited 39, Hilldrop-crescent, and found animal remains in a hole in the cellar. There appeared to be lime mixed with the soil surrounding the remains.

Dr. W. H. Willcox on analysis found calcium hydrate and calcium carbonate in the earthy material around the remains corresponding to about 30 per cent. of quicklime. If quicklime (calcium oxide) had been mixed with soil the moisture from the soil and from the remains would turn it into calcium hydrate, and the carbon dioxide produced by putrefactive changes would turn this calcium hydrate partly into calcium carbonate, which was exactly what was found.

With the remains were found a pair of female combinations, the undervest of a woman, a man's handkerchief bearing no mark, a pyjama jacket, which was identical in pattern with a pair of pyjama trousers which were admitted by the defendant to be his. This pattern was a remarkable and unmistakeable one. Also with the remains were found three Hinde's hair-curlers containing brown hair several inches long. Microscopical examination showed that the hair was human, and roots were visible at one end indicating that probably the hair had been pulled out. The hair in curlers showed unmistakeable signs of bleaching in the distal portion. There was also some loose brown hair in the handkerchief which was lighter in colour than the other hair, presumably owing to bleaching. This showed roots at one end.

The remains were on examination found to be undoubtedly human. The heart, lungs, liver, kidneys, stomach, and intestines were typically those of a human adult. And also portions of skin and muscles of a human body were present.

The condition of the remains when found showed a

remarkable freshness and freedom from the ordinary signs of bacterial putrefaction. The heart and kidneys especially appeared perfectly fresh, and their structure could be made out quite clearly. There was a relatively considerable amount of adipocere present in the portions of skin and organs found. Bearing in mind that the remains were surrounded by soil heavily impregnated with lime it would be expected that if buried soon after death the ordinary bacterial processes of putrefaction would be delayed, since lime is antiseptic in property; on the other hand, the presence of lime would accelerate the formation of adipocere. It was after a careful consideration of the conditions under which the remains were found that Mr. Pepper, Dr. Marshall, and Dr. Willcox gave it as their opinion that they had been buried from four to eight months. From the conditions of the organs generally, and from the condition of the heart and aorta, it was concluded that the remains were those of an adult of early or middle life. The absence of marked bacterial putrefaction pointed to burial soon after death.

An examination of the remains revealed no cause of death referable to disease or injury. Among the pieces of skin with subjacent muscle found was a piece 7 inches by 6 inches. This piece had on its posterior portion a piece of muscle 4 inches in vertical extent, which corresponded exactly to the left rectus abdominis muscle. At the lower end of this muscle was a layer of tendon which was either part of the tendon of insertion of the muscle or a part of one of the transverse tendinous intersections. Also on the posterior part of this piece of skin was aponeurosis bearing the characters of aponeurosis from the lower abdominal wall. On one side of the posterior part of the piece of skin were muscles with fibres running in two directions, corresponding to the internal oblique and transversalis abdominis muscles. On the left portion of the anterior surface of the piece of skin were hairs arranged in a transverse horizontal line and corresponding to human pubic hairs.

The above characters of the piece of skin in question caused the medical witnesses for the Crown to place its position as being the lower part of the anterior abdominal wall, and the medical witnesses for the defence, Dr. H. M. Turnbull and Dr. R. C. B. Wall, assented finally to this conclusion.

On the anterior surface of the piece of skin stretching from about half an inch above the line of hairs was a mark triangular in shape, the base of the triangle being below. The width of the mark was seven-eighths of an inch below, and it extended upwards four inches. The width at the middle was half an inch and at the upper part a quarter of an inch. This mark was smooth and showed some pigmentation and transverse striation. Along the middle of the triangular mark was a slightly raised line. This mark was emphatically expressed by Mr. Pepper as being an old stretched scar. There were no stitch marks visible, but it was pointed out that these were often absent in stretched scars. Dr. Marshall, Dr. B. H. Spilsbury, and Dr. Willcox formed independently the same opinion as Mr. Pepper with regard to this mark. Stretching from the apex of the mark (scar) described was a curved mark which then extended down in a horseshoe-like manner to the left. This curved mark was stated by the witnesses for the Crown to be a groove due to folding of the skin, and they concluded that it was not a scar because this curved mark showed to the naked eye the marks of sebaceous glands and did not show the smoothness and other characters mentioned in regard to the mark described as a scar.

The medical witnesses for the defence expressed the opinion that both marks might be due to folding of skin and subsequent pressure. It was, however, concluded that while a single fold of the abdominal wall might take place it was difficult for a double fold to occur owing to the elasticity of the specimen. Also folding would not account for the triangular appearance of the portion described as a scar and which appearance was presumably due to stretching.

A microscopical examination was made of several portions of the specimen—the part described as a scar and that described as a groove. Dr. Spilsbury prepared specimens of these and the sections were examined by the medical witnesses for the Crown and by Dr. Turnbull and Dr. Wall for the defence. It was admitted by all that sebaceous glands and hair follicles were present in the groove. In the part described as a scar were—along the line of the incision in the deeper parts of the section—portions of epithelium which were mentioned in the evidence of the witnesses for the Crown as being included epidermis, which is commonly present in the scars following surgical operations. The medical witnesses for the defence stated that this included epithelium, in their opinion, might be the epithelium of sebaceous glands and hair follicles.

The jury asked to inspect the microscopical specimens, but the judge very properly advised that this be not done, since the forming of an opinion on this point involved a very considerable experience of pathological histology.

The piece of skin in question showed no sign of the navel. Mr. Pepper stated that this had probably been removed at the operation, and that it was a not uncommon practice to remove the navel when a long incision was made in the midline of the lower abdomen. Had the navel not been removed it would most probably have been present in the piece of skin in question.

All the medical witnesses were of opinion that the remains showed no certain anatomical signs as to sex.

The remains when found consisted of several portions of skin and muscle, and also the whole of the viscera of the chest and abdomen, with the exception of any pelvic viscera. The viscera of the chest and abdomen had been removed in one mass. This was considered to indicate that the person engaged had been possessed of some anatomical knowledge in the evisceration of human or mammalian animals, but it did not necessarily imply that great practical post-mortem experience was necessary.

The remains included no head nor limbs nor bone of any kind. Also no pelvic viscera were present. Thus, the certain indications of sex and identity had been most effectually removed.

The viscera (stomach, kidneys, intestines, and liver) were sent to Dr. Willcox for analysis on July 22nd. He found in each of these organs an alkaloid which produced complete paralysis of the pupil lasting several days. Cats were the animals experimented on. Dr. Willcox submitted all the organs to the Stas-Otto process and from each obtained a mydriatic alkaloid. In each case a definite purple-violet colour was given by Vitali's test, showing, in his opinion, that a vegetable mydriatic alkaloid was present—viz., atropine, hyoscyamine, or hyoscine. Having found a vegetable mydriatic alkaloid Dr. Willcox proceeded to determine which was present, and by special purification of the alkaloid obtained he found that it was not crystalline but gummy in character. Also he found that on treating a solution of the purified alkaloid with bromine in hydrobromic acid brown spheres were obtained. Hyoscyamine and atropine give crystals with this latter test, and hyoscine spheres. From these characters Dr. Willcox concluded that the alkaloid present was hyoscine.

Dr. A. P. Luff, honorary scientific adviser to the Home Office, confirmed independently the accuracy and suitability of the tests applied by Dr. Willcox, and supported him in his emphatic opinion that the mydriatic alkaloid found must have been a vegetable mydriatic alkaloid and must have been hyoscine.

Dr. Willcox found in the stomach 1/30 grain, in one kidney 1/40 grain, in the intestines 1/7 grain, and in the liver 1/12 grain; total, 2/7 grain of hyoscine, corresponding to 2/5 grain of hyoscine, hydrobromide. Dr. Willcox concluded that over half a grain of the salt must have been present in the whole body.

The lungs, when submitted to Dr. Willcox, were more putrefied than any of the other organs; they showed only the merest trace of mydriatic alkaloid, very much less than any of the other organs.

The distribution of the poisonous alkaloid pointed conclusively to that of an alkaloid being administered by the mouth, and entirely excluded the possibility of the alkaloid being the result of putrefaction, since the best preserved organs yielded the greatest percentage of alkaloid.

The uses of hyoscine hydrobromide in medicine were fully considered by the Court. It was pointed out that when used internally it was generally given hypodermically in doses of 1/100 to 1/200 grain, the use being, as a rule, for cases of delirium, delirium tremens, mania, meningitis, &c., where the sedative action of the drug was required. It was also pointed out that the drug was given occasionally as a hypnotic and also in combination with morphine as a sedative. It was mentioned that sometimes the drug was given by the mouth, especially for cases of nerve disease, such as paralysis agitans, &c. Dr. Willcox stated that it was

never given by the mouth in doses of half a grain. Hyoscine is not mentioned in the British or American Homœopathic Pharmacopœias and its use in homœopathic medicine appears to be very rare, though the defendant stated that he bought 5 grains of hyoscine hydrobromide for this purpose. The defendant stated that he used in his practice two-thirds of the quantity he bought, but he could not mention a single patient to whom he had prescribed the drug. Nor could he state where the remainder of the poison was. There is no criminal case of hyoscine poisoning on record.

The Case for the Defence.

Mr. Tobin's speech for the defence endeavoured to show that Crippen was a good-natured man, that Belle Elmore's character was not above suspicion, and that the untruths which Crippen had told were intended to prevent any scandal following upon the action of his wife, who, it was suggested, was alive, while his flight was only what innocent men had done before in a panic. With regard to the medical aspect of the evidence Mr. Tobin suggested that there was a doubt as to the sex of the remains, that the mark on the piece of skin was not the mark of an operation, and that Crippen's anatomical knowledge was not sufficient to have enabled him to perform the dissection in the manner in which it had been performed. Counsel also laid stress on the fact that Crippen when obtaining the hyoscine hydrobromide need not have signed the poison book and that he openly left the record of his purchase at a shop where he was known. Crippen was then called into the witness-box and gave evidence in support of his counsel's opening. His cross-examination lasted three hours, during which time he maintained a perfectly calm demeanour. The scientific evidence for the defence has been outlined above.

The Summing-up, Verdict, and Sentence.

The Lord Chief Justice in his summing-up, after reviewing the evidence in an exhaustive and impartial manner, said if the jury were of opinion that the Crown had not completely proved their case the verdict must be "Not guilty." They must not, however, hesitate to return a verdict of guilty from any fear of what might happen in the future. If Cora Crippen was really alive there had been ample opportunity for bringing her forward. The jury after an absence of half an hour returned into court with a verdict of "Guilty." The prisoner protested his innocence, and the Lord Chief Justice in passing sentence of death warned him not to expect any remission.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ANNUAL REPORT OF THE COUNCIL.

THE report of the Council of the Royal College of Surgeons, which is to be laid before the annual meeting of Fellows and Members on Thursday, Nov. 17th next, is now published. The report deals with the work in the various departments of the College during the year ending August 1st, 1910.

At the last annual meeting resolutions were carried (1) re-affirming the desirability of admitting Members to direct representation on the Council; (2) the amending of the Midwives Act in order that provision may be made to secure just remuneration for professional services rendered by medical men under this Act; and (3) the promotion of a new Charter and Act of Parliament to incorporate the Royal Colleges of Surgeons and Physicians of London so as to form Royal Colleges or parts of the University of London.

In its report the Council states that the resolutions were submitted to it at its meeting in December, and at the following meeting in January a special committee was appointed to consider and report on the question of the representation on the Council of Members of the College. This committee took the question into consideration and presented a report, which was considered at the meeting of the Council in March, when it was decided to take no steps with regard to this question. With regard to the proposed amending of the Midwives Act, the report states that at the meeting of the Council in December the President called attention to the report of the Departmental Committee appointed by the Lord President of the Privy Council to consider the working of the Act, and he was requested by the Council to address a letter to the Privy Council urging the need for early legislation to give effect to the recommendations of the committee. Copies of the letter addressed by the President to the Privy Council and of the letter which he received in reply are contained in the report. In reference to the proposed combination with the University of London a letter was received from the secretaries of the Royal Commission on University Education in London stating that the Royal Commission would be prepared to receive information regarding the views of the College upon questions connected with medical education in London and would like to have a statement of the nature and scope of the evidence proposed to be given. The Council appointed a committee to prepare a statement, and authorised the committee to coöperate with any committee of the Royal College of Physicians which might be appointed for the same purpose. Similar action having been taken by that College, several joint meetings of the representatives of the two Colleges were held and a report was drawn up. This report was approved and adopted by the Council of the Royal College of Surgeons in March, 1910, but when submitted to the Royal College of Physicians for approval it was referred to a committee of that College for consideration.

The by-laws relating to the admission of women to examination for the diplomas of the College have been approved by the Secretary of State for Home Affairs, and the first woman to be admitted a Member of the College received her diploma in May last.

The jubilee of the charter enabling the College to grant Licences in Dental Surgery took place during the period with which the report deals, and was celebrated by a dinner in the library of the College in December, 1909. The President was in the chair, and, besides the Vice-Presidents and Council, there were also present a considerable number of representative members of the dental profession from London and all parts of the country.

Notice having been given by the Society of Apothecaries of London of its intention to promote a Bill in Parliament to give the Society authority to grant diplomas in dental surgery, &c., and for other purposes, a petition against the Bill was lodged by the College, and in opposing the Bill the College had the support of the British Dental Association, the National Dental Hospital and College, and many of the teachers of dental surgery in London. Technical objections to the Bill were raised in Parliament on the ground that it sought to alter public Acts and that public Acts cannot be altered by means of private Bills, and it was ordered by the Speaker to be withdrawn as a private Bill.

With regard to the regulation made by the Council in June, 1909, that all candidates for the Licence in Dental Surgery of the College entering at a recognised dental hospital or school should be required to produce a certificate of having attended at a recognised dental hospital or school a course of practical instruction in the administration of such anæsthetics as are in common use in dental surgery, it seems probable, says the report, that this regulation will become general. In November, 1909, the General Medical Council adopted a recommendation to the licensing authorities that every candidate for a Licence in Dental Surgery should be required to produce a certificate that he has attended such a course. With regard to the general question of the administration of anæsthetics, the Council has had before it the text of a Bill entitled the Anæsthetics Bill, 1909, and has taken into consideration the conclusions adopted by the General Medical Council in reference to this Bill and has concurred generally with the views of that Council upon the subject.

The report contains copies of the addresses of condolence which were presented by the Council of the College to the King and Queen Alexandra upon the occasion of the death of King Edward VII., together with the replies received from the Home Secretary and from the Lord Chamberlain to Queen Alexandra. A copy of the official letter duly notifying the King's pleasure to continue to be an Honorary Fellow of the College is also included.

With regard to finance, the income of the College shows an increase of £150 on that of the previous year. There is a decrease of £480 in the receipts from the Conjoint Examining Board in respect of the Membership, but in regard to the fees received from the Fellowship, the Licence in Dental Surgery, and the Diploma in Public Health there are increases of £150, £68, and £100 respectively. Although

on account of the limited space now occupied by the Conjoint Board at the Examination Hall a decrease is shown from the amount received in the previous year from the hire of rooms account, yet a considerable sum has been realised from this source of income. The expenditure for the year shows an increase of £648. There is a decrease of £355 in the fees paid to examiners under the Board, while as regards the Fellowship, the Licence in Dental Surgery, and the Diploma in Public Health there is an increase of £83, £106, and £46 respectively. Included in the report is a full statement of the receipts and expenditure accounts.

During the year 344 Membership diplomas have been issued, together with 56 Fellowships, 84 diplomas of the Licence in Dental Surgery, and 36 Diplomas in Public Health, which latter qualification is granted jointly with the Royal College of Physicians.

The chief donations to the museum and library of the College are published in the report, and it is noticeable that in each of these departments of the College the number of visitors and readers respectively has been considerably in advance of those of the previous year.

The obituary list is a long one and is this year noteworthy as it contains the name of the late King Edward VII. The Council states that it regrets his loss the more in that he signified his approval of the creation of the Honorary Fellowship by becoming the first Honorary Fellow. The names of a past vice-president, a member of the Council, and an examiner in midwifery are included in the obituary list, together with 26 Fellows, 227 Members, and 5 Licentiates in Dental Surgery.

Full particulars are given in the report concerning the forthcoming series of College lectures, and any Fellow or Member desirous of having the report sent annually, and whose name is not already on the standing list kept at the College for this purpose, can have the same sent to them, free of charge, on applying to the secretary.

ASYLUM REPORTS.

City of Cardiff Mental Hospital (Report for the Year 1909).—At this hospital the total number of cases under treatment during the year was 873, the average daily number on the register being 673. 189 patients were admitted, and of these 181 were direct admissions. Dr. Edwin Goodall, the medical superintendent, points out that heredity of some kind was elicited in 31·2 per cent. of the admissions and that there can be no doubt that it was present in a number of cases in which no cause could be assigned. As to the "health" of the admissions, it appears that 79 were in bad health, 64 in moderate health, and 46 in good health. 119 patients were discharged. The recoveries numbered 62. Calculated upon the number admitted and excluding transfers this gives a recovery rate of 35·4 per cent. In addition to the recoveries 23 patients left relieved. As regards the duration of residence of those who left recovered, 38 out of 62, or 61 per cent., were in residence for not more than five months, and 29 out of 62, or nearly 47 per cent., for not more than four months. It is claimed that these are high percentages of short period residences in mental cases, and it is hoped that the methods employed to promote recovery are to be credited in considerable measure with these good results. Dr. Goodall points out that it is unfortunately the case that the patients discharged from the public mental hospitals are, without a due period for convalescence, plunged forthwith into their usual avocations, these often being associated with mental stress. In these circumstances it is perhaps astonishing that relapses are not more frequent. There were 81 deaths, and necropsies were held in 75 cases. Judging from the amount of research work done it would appear that much use is made of the excellent laboratory provided by the wisdom of the committee of visitors.

Dorset County Asylum (Report for the Year 1909).—At this institution the average daily number on the registers was 347. 173 patients were admitted. The medical superintendent, Dr. P. W. Macdonald, gives a table showing in tabular form the number of persons admitted and the number resident at the end of each year during the quinquennium ending with the close of 1909. He points out that though the figures show a greater variation in the number of admissions than in those resident, the true criterion of variation in the rate of increase or decrease of lunacy should not be based on the admissions, for it frequently happens that persons are admitted who are not reliable factors in computing a table of annual increase. In this class must be reckoned many of the senile, who after a few weeks or months of nursing are fit to return home. Dr. Macdonald raises a question whether it is reasonable that the ratio of the insane to the population should be raised by the inclusion of cases which could have been equa ly well cared for elsewhere, but which because of the difficulty of providing for home care are sent to the mental hospital. Taking first admissions only, it appears that there is a clear 50 per cent. in which there were present maniacal symptoms. This is different from the proportion obtaining a few years ago, when cases of this type were considerably fewer than those in which depression was the main characteristic. Fewer cases of general paralysis and epileptic insanity were admitted. Dr. Macdonald observes that among the causes of insanity the influence of heredity is steadily assuming larger proportions. The percentage of recoveries among those discharged was 40·28. On the female side the percentage of recoveries for the year was 57, whereas among the men it was only 24. The death-rate, calculated on the total number under treatment, was 7·1. Dr. Macdonald reports on the successful results of treating recent cases in the solaria instead of in bedrooms or dormitories.

Hereford County and City Lunatic Asylum (Report for the Year 1909).—The average daily number resident was 505, and 586 persons were under care during the year. 86 patients were admitted. It is very remarkable that as an associated cause of insanity thyroid disease in one or other of its several forms was noted in 16·6 per cent. of the males and 63·4 per cent. of the females. 50 patients were discharged, the percentage of recoveries calculated upon the number of admissions (transfers from other asylums excluded) being 28. The deaths numbered 40, giving a percentage calculated on the daily average number resident of 7·9. Post-mortem examinations were held in 76·5 per cent. of the total number of deaths.

East Sussex County Asylum, Hellingly (Report for the Year 1909).—The average daily number of patients on the register was 1092. There were admitted 277 persons. The proportion of senile cases was higher than in the previous year, while the number of patients suffering from general paralysis was considerably less. 11 patients were admitted with the latter disease, and in only 4 of these could a history of syphilis be obtained, and of these but 2 showed the stigmata of the disease. The number of patients discharged was 191, of whom 108 were recovered, the recovery rate being 43·37 per cent. on the direct admissions. Deaths during the year numbered 98, the death-rate being 8·97 per cent. on the total number under treatment. The mortality from tuberculosis is low, being at the rate of 10·9 per 1000. Dysentery caused only one death. Post-mortem examination was made in 71·5 per cent. of the deaths. The medical superintendent, Dr. F. R. P. Taylor, reports that in 247 of the 277 direct admissions a family history was obtained and that heredity was ascertained in 28 per cent. of the males and 43 per cent. of the females. In Dr. Taylor's opinion it is most important to impress on the public the hereditary nature of mental diseases and to supervise most carefully the education of children who have, through their parents, a tendency to the disease.

Roxburgh, Berwick, and Selkirk District Board of Lunacy (Report for the Year ending May 15th, 1910).—The average daily number resident in the asylum at Melrose was 312·6. The number of admissions during the year was 52, or 20 less than during the previous year, and 14·2 less than the average for the ten previous years. 34 patients were discharged, and of these 23 had recovered, and 11 were relieved. The recoveries as compared with the admissions gave the proportion of 44·2 per cent., the recovery rate for the previous 37 years since the opening of the asylum having been 33·7 per cent. The deaths numbered 23, giving a rate of mortality, calculated on the average number on the register, of 7·1 per cent. The average rate for the previous 37 years was 7·3 per cent. Post-mortem examinations were held in 78·2 per cent. of the deaths. Pulmonary tuberculosis was found to be present in an active form in 34·7 per cent. of all the deaths.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Liverpool.—The annual report of Dr. E. W. Hope, the medical officer of health of this important city, with its population of some 760,357, is always interesting reading. The birth-rate of Liverpool is considerably above the average of the large towns, and although the rate is declining in common with that of the country as a whole, it is still exceeded by only two towns having a population of over 100,000. The general death-rate for the year 1909 was 18·3 per 1000, and in connexion with this rate Dr. Hope draws attention to the fact that the proportion of deaths which take place in Liverpool in public institutions is larger than is the case in other towns. Generally speaking, this phenomenon implies poverty and want, but, as he points out, it may also, and no doubt does, indicate that the institutions have a wide reputation and attract people both from within and without the city. This latter is certainly an increasingly important factor, and with the improvement of infirmaries it will be necessary to be very careful in drawing inferences as to the prevalence of poverty and want from the popularity of these institutions. But whether this be so or not, some 34·3 per cent. of the total deaths in Liverpool take place in Liverpool as compared with 25·8 per cent. in Manchester, 16·9 per cent. in Leeds, and 23·9 per cent. in Birmingham. Small-pox was introduced into the city on six separate occasions during 1909, the disease being ship-borne in three instances and introduced by overland Russian emigrants in three instances. As regards protection against this disease Dr. Hope remarks that the medical inspection of school children is showing that there is growing neglect of vaccination, and that the younger children manifest less satisfactory vaccination than the older ones. It was found that in one Poor-law district nearly 14 per cent. of the children newly admitted to school were unvaccinated. Presumably in referring to less satisfactory vaccination than formerly Dr. Hope has meant vaccination by one mark instead of four, and if this be so it seems a pity that the names of those responsible for the vaccinations cannot be given, as no medical man has any right to administer what is practically an underdose of a drug, serum, or vaccine. With respect to scarlet fever, a chart is furnished showing the death-rate from this disease in Liverpool during the past 60 years, and Dr. Hope adds that for the first half of this period at intervals of a year or so the number of deaths from scarlet fever reached proportions which would now be regarded with astonishment. But from the period when hospital isolation was provided, and better administrative methods adopted, there has been a remarkable drop in the death-rate from this disease, and he thinks that this lesson may be applied to other forms of infectious diseases, such as whooping-cough and measles. An expression of faith in the utility of isolation hospitals coming from a great city such as Liverpool is an important fact and will be welcomed by a large number of medical officers of health. The statement would, however, prove of even greater value if all the data upon which this conclusion is based could have been given, since the scepticism so often expressed by medical officers of health as to the value of isolation, especially in scarlet fever, renders it necessary that this question shall be freely discussed. On p. 48 there is furnished a table showing the death-rate from scarlet fever for each 10-yearly period from the year 1856 to 1905, and the rates given in this table do not seem to fit in with the table on p. 269 in such a manner as to quite justify Dr. Hope's inferences. It would certainly much assist investigation of this very important subject if, from the standpoint of his exceptional experience, he would discuss the matter in more detail in his next annual report or by means of a separate report. Dr. Hope has, we are glad to see, a very firm faith in the value of isolation hospitals, and he predicts that isolation for a limited number of cases of whooping-cough will lead to some diminution of the disease. In connexion with the subject of tuberculosis some very reasonable comments are made in reference to the limited degree of infectivity of the disease. In Dr. Hope's view forms of tuberculosis other than phthisis may be regarded as practically non-infectious, the large majority of the cases of phthisis coming under the same category. As regards the remainder they are, he adds, infectious only under circumstances favourable to infection, and have little, if any, tendency to spread where reasonable precautions can be adopted. He observes that in the great consumption hospitals of the country, notwithstanding the constant exposure of the attendants on the sick, infection is extremely rare, and the same remark may, he says, be made with reference to the Liverpool Hospital for Consumption and to Poor-law institutions. It is, in his opinion, the vicious domestic or living conditions which lie at the root of the evil, and it is against these that sanitary effort in Liverpool has been directed. Dr. Hope then furnishes an interesting account of the work done in the direction of destroying the breeding-places of tuberculosis by the Liverpool Housing Committee, which has now 2200 dwellings with 8075 people under its control. These dwellings have been erected on the sites of the insanitary dwellings which they replaced, and are reserved for the people dispossessed; that is to say, the people whose slums were demolished form no less than 80 per cent. of the total inhabitants. Although this is the case the phthisis death rate in the new dwellings is only 1·9 per 1000, a rate which is considerably below that of the districts in which the dwellings are situated. With respect to this administrative action Dr. Hope thinks that "no practical sanitarian would suggest that if, instead of spending the money in demolishing the slums, purchasing the sites, and erecting the dwellings, it had been spent in providing sanatoria and in removing and maintaining the diseased people therein, that the results would have been at all comparable either in benefit to the city or to the inmates of the dwellings themselves." It may be added to this statement that 50 beds have been set apart at one of the isolation hospitals for the treatment of cases of tuberculosis. As regards the question of tuberculous milk an instructive chart is furnished showing that under the local powers conferred by the Liverpool Corporation Act, 1900, in connexion with the examination of milk furnished from outside the city, there has been a progressive decline in the percentage of samples found to be tuberculous, but the photographs of some of the country cowsheds on farms which supply milk to the city show that there is still much work to be carried out before a pure milk-supply can be ensured. The quality of the water supplied to Liverpool as indicated by daily bacteriological examination shows that the average number of bacteria has been only 23 per cubic centimetre, that B. enteritidis sporogenes was absent in all cases, and that bacillus coli was only found in 50 cubic centimetres and 100 cubic centimetres of the water. This is a most valuable and interesting report for which we wish to thank the author.

Borough of Sunderland.—The population of this borough reached the estimated number of 159,157 in 1909. The birth-rate was 29·4 per 1000 and the death-rate 17·0 per 1000. The number of women living at child-bearing ages is estimated at 40,252, and the number of children born per 1000 of such women was 116 in the year 1909. There were 229 cases of diphtheria notified and the fatality rate was 14 per cent., and Dr. Henry Renney strongly urges parents to seek medical advice in throat diseases in children, however slight the malady may appear. A localised outbreak of diphtheria occurred in 1909, and the medical officer of health was inclined to ascribe it largely to the fact that the children attacked were in the habit of playing about a sewer ventilator. Since June, 1901, there have been 81 patients treated in the Stanhope Sanatorium as patients of the Sunderland corporation, and of these 46 are dead, 11 well, 8 fairly well, 11 cannot be traced, 1 is ill, and 4 are still in the sanatorium. Of the 46 who died after leaving the sanatorium the average duration of life after discharge was 2 years 2 months. The corporation grants certificates to farmers who comply with the regulations as regards air-space and cleanliness and who keep only cows which have yielded negative results with tuberculin. An interesting observation was made with respect to a farmer who clipped the tails and hind-quarters of his cows and groomed the animals daily, with the object of lessening the amount of pollution, with the result that samples of milk which before this practice showed bacillus coli to the extent of 10,000 per cubic centimetre, subsequently yielded only 10 bacilli coli per cubic centimetre. Tubercle bacilli were found in 7·4 per cent. of the total number of samples of milk examined in 1909.

Plympton St. Mary Rural District.—The council of this district has for several years sent tuberculous patients to one of the Devon sanatoriums, and Mr. S. Noy Scott observes as a

result of his experience that a comparison of the cases sent to the sanatorium with those who remained at home has not yet convinced him that sanatorium treatment leads to such good results as some persons believe. He does not, he says, wish to belittle the great good which sanatoriums have done in impressing upon the public the enormous value of fresh air, good food, and rest in the treatment of phthisis, but he enters a protest against placing an undue reliance upon expensive treatment in these sanatoriums when the fresh air, good food, and rest can be obtained at home. In his judgment the cases occurring amongst the working-classes treated at home live as long as those treated elsewhere. But, of course, it has to be borne in mind that as regards urban communities the fresh air cannot be obtained at home, nor is it easy to carry out a proper course of living without the control secured at sanatoriums.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 77 of the largest English towns 7933 births and 4213 deaths were registered during the week ending Oct. 22nd. The annual rate of mortality in these towns, which had been equal to 12·8 and 13·1 per 1000 in the two preceding weeks, declined again last week to 13·0. During the first three weeks of the current quarter the death-rate in these towns averaged 13·0 per 1000. In London the death-rate during the same period, calculated on the probably over-estimated population, did not exceed 12·6 per 1000. The lowest reported annual death-rates last week in these 77 towns were 6·2 in King's Norton, 6·3 in Hornsey, and 7·2 in Walsall and in Handsworth; the rates in the other towns ranged upwards to 19·3 in Wigan, 19·7 in Merthyr Tidfil, 19·8 in Brighton, and 21·4 in Middlesbrough. In London the reported death-rate last week did not exceed 12·6 per 1000. The 4213 deaths from all causes registered in the 77 towns last week showed a decline of 48 upon the number returned in the previous week, and included 504 which were referred to the principal epidemic diseases, corresponding with the number in the previous week; of these 504 deaths, 296 resulted from diarrhœa, 75 from measles, 42 from diphtheria, 37 from whooping-cough, 28 from enteric fever, and 26 from scarlet fever, but not one from small-pox. The mean annual rate of mortality from these diseases in the 77 towns last week was equal to 1·6 per 1000, against 1·5 and 1·6 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Leyton, Coventry, Ipswich, Warrington, or in six other smaller towns; the annual death-rates therefrom ranged upwards, however, to 4·1 in Southampton, 4·2 in Grimsby, 4·9 in Burnley, 5·3 in Bury, and 7·5 in Brighton. The deaths attributed to diarrhœa in the 77 towns, which had declined in the seven preceding weeks from 527 to 296, were again 296 last week; the highest annual rates from these causes in the 77 towns last week were 2·9 in Middlesbrough, 3·0 in York, 3·6 in Brighton, and 4·4 in Burnley. The 76 fatal cases of measles showed a further marked increase upon recent weekly numbers, and caused the highest annual rate of 3·6 per 1000 in Brighton. The deaths referred to diphtheria, which had been 42 and 34 in the two previous weeks, rose again to 42 last week, of which 15 occurred in London and its suburban districts, 3 in Southampton, and 2 both in Reading and in Stoke-on-Trent. The 37 fatal cases of whooping-cough showed a further decline from the numbers in recent weeks; they included 9 in London and West Ham, and 3 in Manchester and in Sheffield. The deaths referred to enteric fever, which had been 38, 21, and 43 in the three preceding weeks, declined again last week to 28, of which 4 were returned in Plymouth and Devonport, 3 in Manchester, and 2 in Birmingham. The 26 fatal cases of scarlet fever were 7 below the number in the previous week, but included 4 in Stoke-on-Trent and 2 in Barry. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily increased in the nine preceding weeks from 1423 to 1745, had further risen to 1792 on Saturday last; 231 new cases of this disease were admitted to these hospitals during last week, against 249, 245, and 234 in the three preceding weeks. The 1176 deaths from all causes in London last week included 194 which were referred to pneumonia and other diseases of the respiratory system, showing an increase of 32 upon the number in the previous week, and exceeding by 10 the corrected average number in the corresponding week of the five years 1905–09. The causes of 23, or 0·5 per cent., of the deaths registered during last week in the 77 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London (and in its eight suburban districts), Manchester, Leeds, Bradford, Newcastle-on-Tyne, and in 49 other smaller towns; the 23 uncertified causes of death in the 77 towns included 3 in Birmingham and in Gateshead, and 2 each in Liverpool, Leicester, St. Helens, Warrington, and Sheffield.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 821 births and 470 deaths were registered during the week ending Oct. 22nd. The annual rate of mortality in these towns, which had been equal to 14·4 and 12·9 per 1000, in the two preceding weeks increased slightly to 13·0 in the week under notice. During the first three weeks of the current quarter the death-rate in these eight towns averaged 13·4 per 1000, and exceeded by 0·4 the mean rate during the same period in the 77 largest English towns. The annual death-rates in the eight Scotch towns last week ranged from 8·4 and 12·4 in Leith and Aberdeen, to 15·6 in Dundee and 16·8 in Perth. The 470 deaths from all causes in the eight towns last week exceeded by 2 the number returned in the previous week, and included 47 which were referred to the principal epidemic diseases, against 83, 69, and 63 in the three preceding weeks; of these 47 deaths, 25 resulted from diarrhœa, 13 from diphtheria, 4 from whooping-cough, 3 from "fever," and 2 from scarlet fever, but not one from small-pox. The mean annual rate of mortality from these epidemic diseases in the eight towns last week was equal to 1·3 per 1000, the rate from the same diseases in the 77 English towns being 1·6 per 1000. The deaths attributed to diarrhœa in the Scotch towns, which had been 51, 40, and 29 in the three previous weeks, further declined last week to 25; they included 10 in Glasgow, 4 in Edinburgh, in Dundee, and in Paisley, and 2 in Greenock. The 13 deaths referred to diphtheria showed a decline of 2 from the number in the previous week; 5 occurred in Dundee, 4 in Glasgow, and 3 in Perth. The fatal cases of whooping-cough, which had been 8 and 10 in the two preceding weeks, declined to 4 last week, of which 2 were returned in Glasgow. The 3 deaths referred to "fever" included 2 fatal cases of enteric and 1 of cerebro-spinal meningitis; 1 each occurred from enteric in Aberdeen and Paisley, and the fatal case of cerebro-spinal meningitis in Glasgow. The 2 deaths from scarlet fever occurred in Greenock and Perth. The deaths referred to diseases of the respiratory system in the eight towns, which had been 72 and 69 in the two preceding weeks, increased to 80 last week, but were 4 below the number in the corresponding week of last year. The causes of 10, or 2·1 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 English towns the proportion of uncertified causes of death last week did not exceed 0·5 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,151,790 persons, 619 births and 384 deaths were registered during the week ending Oct. 22nd. The mean annual rate of mortality in these towns, which had been equal to 15·9 and 16·9 per 1000 in the two preceding weeks, further rose to 17·4 in the week under notice. During the first three weeks of the current quarter the annual death-rate in these Irish towns averaged 16·7 per 1000; the mean rate during the same period did not exceed 13·0 in the 77 largest English towns and 13·4 in the eight principal Scotch towns. The annual death-rate during last week was equal to 20·7 in Dublin, 16·0 in Belfast, 15·8 in Cork, 8·4 in Londonderry, 5·5 in Limerick, and 29·2 in Waterford; the mean annual death-rate last week in the 16 smallest of these Irish towns was equal to 17·0 per 1000. The 384 deaths from all causes in the 22 town districts last week showed a further increase of 10 upon the numbers returned in the two preceding weeks, and included 42 which were referred to

the principal epidemic diseases, exceeding by 11 the number in the previous week; these 42 deaths were equal to an annual rate of 1·8 per 1000, the rate from the same diseases last week in the 77 English towns being 1·6, and in the eight Scotch towns 1·3. The 42 deaths from these epidemic diseases in the Irish towns last week included 20 from diarrhœa, 5 from measles, 5 from whooping-cough, 4 from enteric fever, 3 from diphtheria, 2 from typhus, and 1 from scarlet fever, but not one from small-pox. The 20 deaths attributed to diarrhœa exceeded the number in the previous week by 4, and included 8 in Dublin, 8 in Belfast, and 2 in Londonderry. The 5 fatal cases of measles occurred in Belfast, and the 5 of whooping-cough in Dublin. Of the 4 deaths from enteric fever 2 were returned in Dublin and 2 in Sligo; and the 2 fatal cases of typhus occurred in Dundalk. The deaths in the 22 towns last week included 63 which were referred to pneumonia and other diseases of the respiratory system, against 44 and 66 in the two preceding weeks. The causes of 5, or 1·3 per cent., of the deaths registered last week in the Irish towns were not certified; in the 77 English towns the proportion of uncertified deaths last week did not exceed 0·5 per cent., while in the Scotch towns it was equal to 2·1 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: F. Bradshaw to Chatham Dockyard, and F. D. Lumley to the *Warrior*; T. Austen to Bermuda Hospital and Dockyard, and F. J. Burns to the *Vernon*. Staff-Surgeons: E. R. L. Thomas to the *Victory*, additional, for disposal; E. O. B. Carbery to the *Calypso*. Surgeons: G. F. Syms to Malta Hospital; F. R. Featherstone to the *Exmouth*; and J. H. Wright to the *Virid*, additional, for disposal; G. Nunn to the *Shearwater*, additional, and to the *Shearwater*, on recommissioning; and R. H. McGiffen to the *Halcyon*, additional, for the *Leda*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Colonel M. W. Kerin, C.B., principal medical officer of the Bareilly, Garhwal, and Dera Dun Brigades, has been appointed to officiate as Principal Medical Officer of the Seventh (Meerut) Division during the absence on leave of Colonel F. B. Maclean. Lieutenant-Colonel R. R. H. Moore has been appointed to the Medical Charge of the Military Hospital at Bulford Camp, Salisbury Plain. Lieutenant-Colonel A. F. Russell, C.M.G., commanding the Military Hospital at Malta, has arrived home on leave. An exchange on the roster for service abroad has been sanctioned by the War Office between Lieutenant-Colonel C. Birt and Lieutenant-Colonel R. H. Hall. Lieutenant-Colonel J. M. Irwin, on vacating his appointment as assistant director of medical services, has embarked for a tour of service in North China. Lieutenant-Colonel R. W. Wright, from Shoeburyness, has been posted for service in the Eighth (Lucknow) Division. Lieutenant-Colonel G. F. Gubbin, from Colaba, has been reverted to the home establishment. Lieutenant-Colonel G. H. Barefoot has been selected for the command of the Station Hospital at Ranikhet. Major T. J. Lenehan, having notified his intention to retire from the service, has had his name removed from the roster for service abroad. Major W. Hallaran has been posted to the Northern Army, India, for duty in the Third (Lahore) Division. Major C. M. Fleury, from Tidworth Park, has embarked for a tour of service in South China. Captain W. C. Croly, from Colchester, has taken over charge of the Military Hospital at Ipswich. Captain H. E. M. Douglas, V.C., on completion of his course of instructon at the Royal Army Medical College, London, has been posted to Woolwich. Captain E. V. Aylen has been appointed Specialist in Dermatology and Venereal Diseases to the First (Peshawar) Division. Captain J. du P. Langrishe has been transferred from Poona to Mhow. Captain W. F. Tyndale, C.M.G., has taken over duty in the Dublin District. Captain W. W. Browne has been posted to Colchester and appointed a Specialist in Health Efficiency and Medical Adviser on the Gymnastic Staff. Captain F. G. Garland, from Conway, has joined at Manchester. Captain C. D. Myles and Captain M. C. Beatty have been posted to the Southern Command from the Royal Army Medical College. Captain S. B. Smith, on completion of duty at Ticknock Camp, has joined at Dublin. Captain R. J. Franklin, Captain R. M. Ranking, Captain T. S. Coates, Captain D. Ahein, and Captain J. H. Duguid, on completion of their promotion course in London, have been appointed to the Cork District. Lieutenant H. V. B. Byatt has been transferred from Khandalla to Poona. Lieutenant F. W. M. Cunningham, from Donard Camp, has taken up duty at the Curragh. Lieutenant H. G. Robertson, from Sheffield, has joined at Derby. Lieutenant C. M. Nichol, from Colchester, has been appointed to the medical charge of the Military Hospital at Weedon during the absence on leave of Captain W. R. Douglas.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel F. C. Reeves, of the Madras Establishment, has been permitted to revert from civil to military employment. Lieutenant-Colonel R. E. S. Davis, Bombay, has arrived home on leave from India. Major T. H. Symons has embarked for India. Major A. Gwyther, civil surgeon at Saran, has been appointed a Civil Surgeon of the First Class in India. Major J. H. McDonald has been selected to act as Deputy Sanitary Commissioner of the Southern Registration District during the absence on privilege leave of Major C. R. Bakhale. Captain E. C. Hudson has been appointed Officiating Health Officer at Simla, vice Captain H. M. Mackenzie, who has taken over the chair of Physiology in the Medical College, Calcutta, during the absence of Captain D. McCay on furlough. Captain M. Mackelvie, officiating civil surgeon of Puri, has been appointed to act as Civil Surgeon of Darbhanga. Captain G. C. L. Kerans has been appointed Specialist in Ophthalmology to the Eighth (Lucknow) Division. Captain W. F. Brayne, special plague medical officer, Pegu Division, has been granted three months' privilege leave. Captain P. K. Tarapore has been appointed to officiate as Superintendent of the Mandalay Central Jail during the absence on leave of Captain A. W. Greig. Captain H. W. Pierpont has joined the Central Provinces and has been posted to Chanda as Civil Surgeon. Captain A. S. Leslie has been appointed as Superintendent of the Insein Central Jail in place of Captain H. H. G. Knapp transferred. The services of Captain C. A. Sprawson and Captain W. Lapsley have been placed permanently at the disposal of the Government of the United Provinces. Lieutenant A. M. Jukes, in charge of the Brigade Laboratory at Shillong, has been appointed a Specialist in the Prevention of Disease.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank: George H. Stevenson, Eben S. B. Hamilton, and Leopold T. Poole. The undermentioned to be Lieutenants (on probation): Cadet-Sergeant Charles John Simpson, from the Belfast University Contingent, Officers Training Corps (dated Sept. 10th, 1910); Aubrey Gardner Brown (dated Sept. 10th, 1910); and David Turnbull Richardson (dated Sept. 30th, 1910).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Welsh Border Mounted Brigade Field Ambulance: Lieutenant Douglas C. L. Orton to be Captain (dated Sept. 15th, 1910).

For attachment to Units other than Medical Units.—Frederick George Harper to be Lieutenant (dated August 12th, 1910).

Attached to Units other than Medical Units.—Lieutenant John Aitken to be Captain (dated Sept. 15th, 1910). Lieutenant Arthur L. B. Green resigns his commission (dated Oct. 26th, 1910). Captain William Moreland Haladay Spiller, Royal Army Medical Corps, to be an Adjutant of a School of Instruction (dated Oct. 12th, 1910).

DEATHS IN THE SERVICES.

Lieutenant-Colonel Robert Anderson, R.A.M.C. (retired), on Oct. 24th, at Bury St. Edmunds. He entered the service in 1868 as assistant surgeon, became surgeon in 1873, surgeon-major in 1880, and reached the rank of lieutenant-colonel in 1888, and retired in 1893. He served in the Egyptian War of 1882, when for part of the time he was in medical charge of the right wing of the Ismailia Palace Hospital (medal and Khedive's Star). He was elected Mayor for Bury St. Edmunds in 1907.

Correspondence.

"Audi alteram partem."

CAN FISH CONVEY THE BACILLUS OF CHOLERA?

To the Editor of THE LANCET.

SIR,—In an annotation under this heading last week you refer to Professor Gosio's researches into the question, the results of which will certainly be awaited with interest.

In the meantime may I say that when a borough medical officer of health I used to make careful inquiries into all the possible channels of infection of typhoid fever when cases were notified, and, among other things, into the question of ordinary cooking fish. In two or three instances in which a cook was the only patient in the house, I could not trace any evidence of infection by water, watercress, shell-fish, flies, contact with suffering patients or carriers, &c. I formulated the theory that infection had possibly been conveyed by fish caught in undoubtedly polluted waters, or which had lain on the stall of a fishmonger who was a vendor of doubtful shell-fish, and that the cook had received infection from the fish, which had been infected either directly in polluted waters or indirectly by the fishmonger handling first, say, polluted infected oysters, and then, without washing his hands, handling the fish. It generally seemed more probable that the fish had *imbibed* infection directly from the polluted waters. I accounted for the fact that the cook was the only person in the household to develop typhoid fever because she handled and *gutted* the fish, while other members of the family only partook of the fish after it had been gutted, cleaned, and either boiled or fried in boiling oil or other grease. I imagined that the cook's hands had become infected by the fish in the raw state and that she had then conveyed infection (typhoid bacilli) to her mouth by unwashed hands. I think this mode of infection both for typhoid fever and cholera and allied diseases (paratyphoid, diarrhœa, &c.) is not only possible but actually does occur occasionally, but I also think it is only occasionally. In other words, I think ordinary fish from polluted waters have in my experience actually been the vehicle of infection; but at the same time I consider it a comparatively rare means of transmission limited only to those who handle and prepare fish in the uncooked state, and amongst these only to a comparatively small proportion who neglect to wash their hands after such handling or preparation and inadvertently suck their fingers or carry other food to their mouths with unwashed hands. Of course, were the fish not properly gutted or cooked other persons might suffer also.

I am, Sir, yours faithfully,

Norwich, Oct. 24th, 1910. J. T. C. NASH.

BODY METABOLISM IN CANCER.

To the Editor of THE LANCET.

SIR,—In your issue of Oct. 1st appeared a report by a committee of the British Association upon the body metabolism in cancer. Acting upon an assumption that the onset of malignancy has an intimate relationship with diminished or perverted function of the reproductive organs, the liability to the malady waxing as the reproductive activities wane, the committee has treated inoculated mice (which sex?) with spermin and orchidin, and with fresh testicular emulsion and extract. The physiological principle involved in the experiments is that the internal secretions of reproductive organs may exert some restraining and coördinating influence upon the growth of somatic tissue elements. Now Beatson and others tried oöphorectomy—accompanied by the administration of thyroid extract—in human mammary cancer; and the results, such as they were, proved the supposition that the internal secretion of the ovaries encourages the mammary cancer. Thus there are two opposing principles serving as a basis for treatment. On the one side it is hoped to retard malignant growth, arising presumably from any epithelial tissue, by the supply of sexual secretions; on the other it is hoped to retard malignant growth arising from a secondary sexual organ, by the withdrawal of such a secretion. But can the committee be sure that the substances used will produce their effect as internal secretions acting directly upon the growths and not in other capacities?

It has been suggested that spermin plays the part of a catalytic ferment which regulates oxidation in the tissues, as witness its use in obesity. And therefore it may have a general effect as a ferment upon the blood serum, and in this way induce conditions unfavourable to malignant growth. Leucocytosis may be expected to follow the administration of organ extracts, and almost certainly of spermin. To induce this state has long been a purpose in treating cancer, though seldom or never has there been more than temporary amelioration. Leucocytosis may not be a factor in the committee's experiments, but it is worth noting that the varied results given in the report are just what one expects with leucocytotic agents.

I would remark that the possible effect on the metabolism of the serum exercised by leucocytes receives hardly any attention. They are unicellular glands, and speaking generally and without reference to a particular kind, an agent that increases their number and probably also their activity may thus indirectly alter the metabolic balance of the serum. And this is one of the channels through which we hope to combat malignancy.—I am, Sir, yours faithfully,

W. T. GIBSON, A.R.C.S.

Newcastle-upon-Tyne, Oct. 23rd, 1910.

A POINT IN PHARMACOLOGY.

To the Editor of THE LANCET.

SIR,—Senile flatulence is a complaint both common and difficult to cure, especially in persons who are not constipated. Some time ago I noticed the good effect produced by powdered cloves given by an old nurse after my fluid preparation of the same spice had failed. I saw that the spirit of cloves was absorbed in the stomach but that the woody fibre passed on to the seat of the complaint. Acting on this, I procured from Messrs. Oppenheimer and Co. some 5-gr. capsules of powdered cloves coated in keratine. They acted admirably and I recommend their trial. I think there are other drugs which might be used in a powder and keratine coated—e.g., assafœtida. Aloes and assafœtida might be given in keratine instead of as a pill, also ferrum redact. in gastric ulceration. I think we might well revise our B.P. pill list and replace many of them by keratine-covered powdered drugs.

I am, Sir, yours faithfully,

Pontrilas, near Hereford, Oct. 24th, 1910. L. L. THAIN.

THE EDUCATION OF THE STUDENT OF MEDICINE.

To the Editor of THE LANCET.

SIR,—I have read Professor Howard Marsh's admirable and thoughtful address to the students at Leeds, and I think every teacher at hospitals ought most seriously to consider Professor Marsh's suggestions and impress more upon the students the cardinal points in their lectures, and not to enter into so much of the minutiæ, comparatively not so important. Of course, this cannot be done unless the different examining boards are willing to take these suggestions into consideration and vary their questions accordingly. No doubt this is a matter that ought to be well considered by the various governing bodies, and it is well worth the attention of the whole profession. So many students now fail at the examinations through the examiners insisting on their answering correctly minor and unimportant questions.

I am, Sir, yours faithfully,

West Cromwell-road, S.W. W. CUNNINGHAM CASS.

MEDICAL OFFICERS OF SCHOOLS ASSOCIATION.—A general meeting will be held at 11, Chandos-street, Cavendish-square, on Nov. 3rd, at 4.30 P.M., when Mr. R. Denison Pedley will read a paper on "The Care of Teeth in School Children." Dr. Stanley Colyer and others will take part in the discussion.

SANITARY PROGRESS AT COPENHAGEN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ASTRIDE between the Baltic and the North Sea, Copenhagen claims yearly an increasing number of visitors. Commercially it is of even greater importance on account of the enormous quantity of Danish butter shipped from Copenhagen and consumed in Great Britain. And we also receive a considerable amount of bacon and of meat—notably beef—from Denmark. Therefore, whether by reason of the numerous tourists who visit the country or of the foodstuffs we receive from Denmark, we have a direct interest in the sanitary administration of Copenhagen. Here the cattle are killed for exportation, here the butter and bacon are stored, and here our tourist and holiday folks land. Under these circumstances, it is satisfactory to know that, in respect to sanitary administration and legislation, Denmark is fully entitled to a place among the most progressive nations. Indeed, in some respects she has taken the initiative in giving a good example. Thus it was in Denmark that the compulsory notification of infectious diseases was first enforced. A law to this effect came into operation as far back as 1861. In regard to tuberculosis, Denmark is again in advance. The notification of tuberculosis has been rendered compulsory since 1905. Further, it should be noted that practitioners have to report all the cases they treat so that the town authorities may know what diseases are prevailing and what is the general state of health; but the reports need only give the names and addresses of infectious cases. If this is not done, and the service is gratuitous, the medical practitioner may be punished, so that medical service is not unduly rewarded.

Fresh Fish.

The medical staff attending to all health matters in Copenhagen has its headquarters at the town-hall and is under the direction of Dr. E. M. Hoff, who is Dean, or, as we should say, chairman, of the Royal Health Council of Denmark. To Dr. Hoff I am indebted for much of the information I am able to give and for most courteous and helpful advice. Altogether there are nine medical officers attached to the municipal services and two veterinary surgeons. Of course, the medical staff consults with the engineering staff in regard to questions of drainage, water-supply, &c. In this latter respect I may say that great satisfaction is expressed. The water-supply from artesian wells is ample and is believed to be quite pure. Formerly the sewers fell into the sea by numerous outlets at the nearest convenient points. In 1892 a general sewerage scheme was planned and subsequently carried out. This consisted of building a main collecting sewer along the whole shore-line. At a certain point an outfall from this main sewer was constructed so as to convey the sewage to a distance of two kilometres from the shore out into the open sea. Thus there is no longer any contamination of the harbour or the sea front. This not only puts an end to the nuisances that used to arise, but enables boats full of live fish to come close to shore and right into the town by means of the salt-water canals. In this manner at least the smaller fish are kept alive till the moment they are sold. Any number of wooden boats are pierced with holes and filled with fish; these boats just float on the surface of the water, and the living fish is taken out of them when wanted. But as everyone cannot go to the water's edge to buy fish, there are water tanks on wheels and the live fish is brought to the doors of the people's houses. Never before have I been in a town where all the fish, whether cheap or dear, is so beautifully fresh. The principal fish market was built by the municipality and is let to a wholesale fish salesman. It is a delight to see how clean and bright these premises are kept. There is no spreading the fish on slabs so that dust and dirt may settle on them. Very pretty tessellated tile tanks are filled with running water, and here the smaller fish swim about. The larger fish, such as cod or halibut, are too cumbersome to keep alive, and are therefore placed in the cold-storage rooms.

A Technical School for Servants.

Not only are the fish fresh, but they are generally very well, sometimes even artistically, cooked. At Copenhagen it seems to be understood that good food badly cooked is apt to be disappointing. In any case the domestic servants' trade union has instituted a school where members of the union are taught how to be clean and neat, how to sew, to wash and starch, but, above all, how to cook. A little restaurant is attached to this school where anyone can have a cheap meal, thus giving the pupils an opportunity of exercising their art. The trade union, while insisting that a good servant shall earn from 25 to 30 kroner (a krone equals 1*s.* 2*d.*) per month and pay half a krone subscription to her union, does at the same time endeavour to render her fully competent to accomplish her work. Also, by providing sleeping accommodation, it helps to prevent servant girls falling into bad company or suffering undue hardships when out of employment. It is a pity, however, that the sleeping rooms are not more spacious. The law insists on a minimum of 300 cubic feet per bed, and the dormitories I visited barely gave more than this very scant allowance. This perhaps does not much matter in summer when the windows can be kept open, but in winter they are shut and there is no other means of ventilation. Nevertheless, this servant girls' school and home is an admirable institution, and it is all the more likely to succeed in turning out competent students of domestic economy as it is due to the initiative of the servants themselves and not to patronage coming from outside their own ranks.

Cooking at Sea.

In the same way there is an old frigate moored in a canal close to the most fashionable centre of the town. Here there is a school for ships' cooks. On board a ship with the limited space such as prevails at sea young cooks try their 'prentice hands at making dishes such as are served to passengers on sea voyages. There is an awning on the deck, tables are laid out, and numerous inhabitants of Copenhagen take their meals there, for they are both varied and inexpensive. Thus fully qualified cooks are being prepared for the sea, and it is not necessary to point out that, whether at sea or on shore, efficient cooking not only adds to the joys of life but is a very necessary aid to digestion. In this respect, just as travellers on the Mediterranean endeavour to obtain a berth in an Austrian-Lloyd steamer because of the superior cuisine on that line, so connoisseurs bound for Copenhagen and the Baltic seek to secure a passage on the *Titania* of the Finland Line. Not only is she comfortably furnished, but the chef is renowned among epicures. The 20 or so *smörgasbords*, or appetisers, placed at the disposal of the passengers before meals are marvellously and wondrously prepared. To pick and choose amidst this variety of stimulating flavours should suffice to provoke an appetite even among the most jaded and recalcitrant dyspeptics. As for the ordinary and robust traveller, it means that he will not fail to "eat through his ticket," as the Americans say.

Cheap and Wholesome Bread.

Of far more importance, however, than these delicacies are such articles of primary necessity as bread and meat. It has always been a matter of the greatest difficulty to maintain a high standard of purity in the food-supply. Nor is this entirely the fault of unscrupulous tradesmen. The purchaser is for ever clamouring for cheapness and is too apt to patronise those who lower their prices without inquiring at what sacrifice this reduction is achieved. In this never-ceasing conflict of interests between the purchaser and the tradesman some impartial umpire is needed to regulate market prices. At Copenhagen those who were in the greatest need of some such protection have themselves succeeded in creating the necessary check. It was during the years 1884 to 1886 that the exaggerated charges made for bread brought matters to a crisis. The organised workmen succeeded in borrowing 4000 kroner and established a small coöperative bakery, where they made pure wholesome bread and sold it among themselves at a price that would just pay the cost of production. Thus they produced much better and cheaper bread than the bakers. The enterprise grew. To-day the assets of the bakery are estimated at half a million kroner. To deliver the bread 30 horses and 19 carts are necessary. Fifty-three persons are employed at the bakery and are paid the highest wage in the trade. They work for only eight hours a day and have a week's holiday per year with full wages while away. The bakery is provided with a bathing-room and cloak-room, so that the journeymen bakers can wash thoroughly

and change their clothes before beginning work. The most recent machinery is employed, and next to the bakery stand vast flour mills. Thus not only is a further economy realised by grinding their own grain, but the coöperators know exactly what sort of flour they are using. When I visited the mill I found the millers were mixing Danish rye with small Russian and large German rye so as to secure a good medium flour. The wheat they use for the most part comes from America. Looking at all this from the health point of view the benefit is twofold. First, the bread made is more clean and wholesome, and this example has served to raise the standard of quality throughout the trade. Then the competition has compelled a general lowering in the price of bread. Though the cost of the raw material has greatly increased of late years and higher wages are now paid, nevertheless the price of bread is lower than it was before the coöperative bakery was established. The yearly turnover is about 700,000 kroner, and this is sufficient to steady the prices of the whole trade.

Meat, Milk, and Beer.

The coöperators' next step was to turn their attention to the meat-supply, and they have succeeded in establishing a business which by competition also helps to lower and to check the price of meat throughout Copenhagen. They send their own buyers to the cattle market and then conduct the animals bought to the municipal slaughter-house. After slaughter the meat thus obtained is sold in four well-appointed shops. Altogether a meat business equal to an annual turnover of 300,000 kroner has been established entirely in the public interest.

In regard to the milk-supply the workers have not done so much to influence the general market. A great reform in the milk trade has been achieved, and this I hope to describe at length, but it was not due to the initiative of the workmen's coöperative societies. Nevertheless, there is a large workmen's coöperative milk-supply society. At the town-hall, where all the milk is analysed, I was told that the milk of the coöperative society was very good. This workmen's organisation, after 12 years of existence, now employs 128 grown-up persons and 230 boys to assist in delivering the milk. They sell 8,000,000 litres of milk and 85,000 kilogrammes of butter per annum.

Finally, we have the workmen's coöperative brewery which has an establishment worth 259,966 kroner, employs 150 persons, and sells so much beer that it requires 31 horses and 16 carts to deliver it to the customers. On visiting this brewery I was able to verify that the bottles and casks were properly sterilised before they are used. There is a portable electric light which can be put inside the casks to see that no foreign object is within and that they are quite clean. Though the brewery seemed to me satisfactory I could not find anything new. The workers were better paid, and that should help to keep them in better health, but no attempt was made to demonstrate that the beer was purer, more nutritious, less narcotic, or that it was in any other way superior to the beer sold in the ordinary trade. One thing, however, was insisted upon—namely, that they brewed a very large quantity of what is called anti-alcohol beer. Like many other temperance drinks—ginger-beer, to wit—it does contain some alcohol, but only 1½ per cent. per volume. The other beers brewed are pilsener at 3 to 3½ per cent. of alcohol, lager at 4, and stout at 5 per cent. of alcohol. Considering that mild English ales very frequently contain more than 8 per cent. of alcohol, all these Danish beers may be considered, if not temperance, at least very temperate drinks. But the great point is that we have here an institution which supplies beer to a large section of the population and which has no interest to serve in adulterating this popular beverage.

Higher Standard of Life and Lower Mortality.

While the food-supply of Copenhagen has been improved by the competition of the coöperative societies and the prices have been kept down, the air-supply has also been ameliorated. The sea-front, as already explained, is no longer contaminated by sewage. Within the city some of the worst slums have been pulled down. Streets have been widened and the extension of business in the centre of the town has converted the sites of former slums into offices and warehouses. At the same time the town council has been buying up land in the outskirts and laying out new districts for habitation. The night inspection of lodging-houses has become more rigorous and new sanitary by-laws are in contemplation to render such control still more severe. The system of poor relief has been improved and the various funds that give out-of-work allowances have received subventions from the municipality. Thus with better sanitation, less overcrowding, pure water, cheaper, less adulterated food, higher wages, shorter hours of labour, and more generous relief for cases of distress the health of Copenhagen has greatly improved of late. Last year the death-rate only amounted to 14 per 1000, but it would be unfair to take this exceptional figure; it would be nearer the mark if the average general death-rate is estimated at about 15 per 1000. The infant mortality is also a good indication of the sanitary and social conditions of a town. The average mortality within the first year of life, from 1882 to 1886, was 17·6 for the legitimate and 35·3 for the illegitimate infants, making a total of 21·1 per 100 born. The average percentage from 1902 to 1906 was 12·8, 20·3, and 14·4. While last year among the legitimate infants the percentage of deaths was only 9·4, among the illegitimate it was 15·5, making a total of both legitimate and illegitimate of 10·9 per cent. The same satisfactory story may be recorded concerning pulmonary tuberculosis. In 1870 the deaths amounted to nearly 400 per 100,000 of the population. Without any fluctuation the fatalities from this disease have decreased every year till in 1908 they had fallen to 145 per 100,000.

Abolition of the Contagious Diseases Act.

By the side of these successes there is one measure that does not give much good promise. In 1906 the Contagious Diseases (Women) Act was abolished. It is true that other and even more drastic regulations were introduced, but the result is very doubtful. At the same time that the examination of public women was abandoned it was decided to enforce severe punishments for anyone, whether man or woman, who could be convicted of infecting a person. To-day if a man complains to the police that he has been infected by a woman the police can arrest the woman, force her to be examined, and if it can be proved that she knew she was infected she will be criminally convicted. The authorities provide printed forms to all medical practitioners, and they are advised to give these forms to their patients. Till such patients receive a certificate that they are cured it is a criminal offence to have sexual intercourse. Punishment is inflicted under Clause 181 of the Penal Law of Feb. 10th, 1866, which is a sort of codification of former laws. The clause in question says:—

> If anybody who knows or supposes he or she has venereal disease has sexual connexion with another he or she will be punished with simple imprisonment or, under special conditions, with hard labour.

Thus, not long ago a scandal was occasioned by the arrest of a young man who belonged to a good family. He had seduced and infected several girls, and was therefore condemned to three years' hard labour, not for seducing but for infecting his victims. On the other hand, while thus menaced with severe penalties, all those who are infected have every opportunity provided of getting cured. The town council has appointed and pays 12 medical practitioners to attend gratuitously on any man or woman suffering from venereal disease. At first these medical men were paid 3 kroner (or 3*s.* 6*d.*) for the first visit and 1 krone for the subsequent visits, but now they are paid a regular salary of 2000 kroner per annum. They earned much more under the former method of payment. The present system consists, therefore, of facility of treatment on the one hand and severity of punishment on the other, but it seems altogether insufficient. Where poverty is the cause of prostitution it does not provide the money needed, nor does it take into consideration that the victims, however they may suffer, naturally shrink from denouncing those by whom they have been contaminated. In any case, the results obtained are not encouraging. It may justly be said that the statistics do not extend over a sufficiently long period to form a definite opinion, but so far as they go they are not favourable. Three years have elapsed since the freedom of prostitution was proclaimed and I give the figures for the three years preceding 1906 and the three years following. Before the new law the number of cases of gonorrhœa per 10,000 of the population of Copenhagen was 125, 115, and 114. In 1906, the year of transition,

there were 112 cases; and in the three years following, when the new law was in force, there were 129, 142, and 132 cases. With regard to venereal sores, there were 11 per 10,000 of the population for each of the three previous years, 18 during the year of transition, and 17, 26, and 23 for the years 1907–08–09. Now, the most important figures, those that relate definitely to syphilis, are scarcely less discouraging. The cases of syphilis per 10,000 inhabitants for the three years preceding the new law were 43, 30, and 32, during the year of transition 33, and during the three years following 45, 56, and 49.

It does seem as if among the many successful things done and described above, we have in this last attempt at reform a measure that gives every promise of failure.

(To be continued.)

THE RECENT ARMY MANŒUVRES IN THE SOUTH OF ENGLAND.

(BY A SPECIAL CORRESPONDENT.)

THE annual training of the military forces, which has only recently concluded, furnishes many particulars of more than ordinary medical interest, as the numbers of men employed and their association with army reservists, special reservists, and the Territorial Force has been the first attempt made by the War Office to test the working of Mr. Haldane's new scheme of army administration.

General Arrangements.

The summer training for the majority of the regular forces commenced in August in various localities. During the first weeks in September these troops were more or less concentrated under divisional control of their divisional commanders and employed as such. From Sept. 15th to 17th the 3rd and 4th divisions assembled for inter-divisional manœuvres in Somersetshire at concentration camps. Army manœuvres on a large scale followed, and these took place in the vicinity of Salisbury between Sept. 19th and 24th. Camp equipment was taken on the usual manœuvre scale, two blankets and one waterproof ground sheet per man being carried in the second line of transport. Each unit was provided with one of the new filter water-carts drawn from the mobilization equipment. The dress worn by all regimental officers and men was drill order service dress, the directing staff alone wearing blue undress uniforms (patrol jacket) and black leather leggings and ankle boots. No restrictions were placed by the general officer commanding-in-chief (Lieutenant-General Sir C. W. H. Douglas, K.C.B.) on any of his troops entering public-houses. He published an order reminding all ranks that the inhabitants of the districts in which the training and manœuvres took place would in future judge the army by the conduct and bearing of the soldiers whom they met during the manœuvres, and that it was therefore in the power of the troops to bring credit or discredit on their units and on the service to which they belonged. It is satisfactory to record that the behaviour of the troops was excellent. March discipline was also satisfactory and was strictly observed as being of the highest importance in the interests of efficiency and for the avoidance of unnecessary fatigue to the men. The following rules were enforced:—

1. Cavalry and mounted infantry were not allowed to march along a road more than four horses abreast, particular care being taken to leave a space clear at one side for other traffic.

2. Infantry were not allowed to march more than four men abreast, including commanders and supernumeraries, the left side of the road being followed. In the event of men who were marching on the extreme left of the road being caused greater inconvenience than the others, after each halt the left-hand man of each section of fours was placed on the right when the march was resumed.

Regimental arrangements were made for the supply of beer and mineral water in casks for the troops on arrival in camp. No mineral water in bottles was allowed. The sale of beer was limited to one quart per man per diem and issued under strictly controlled regimental arrangements. Sergeants' messes and canteens were not allowed.

Sanitary Arrangements.

Sanitary detachments were detailed by each unit, as laid down in war establishments, and were placed at the disposal of the officers in medical charge of units. A proportion of each regimental sanitary detachment was detailed to accompany the advance party of the unit proceeding to fresh camping grounds in order to prepare latrines and urinals and have them ready for the troops when they marched into camp. All latrines were on the short trench system, each trench being 3 feet long by 1 foot wide and 1 foot deep and placed 2 feet 6 inches apart. When camps or bivouacs were occupied for more than one night an additional depth was excavated according to the number of days the camp was likely to be occupied. 2 per cent. of trenches were laid down as sufficient for one night and 5 per cent. for longer periods. Urine trenches or pits were dug as part of the latrine system alongside the latrines. All latrine and urine trenches were filled in before the camps or bivouacs were vacated and their sites carefully marked so that other units which might subsequently occupy the ground could avoid them, the turf which was carefully cut being properly replaced. Orders were issued that trenches were not to be dug round the tents or for cooking purposes to avoid disfigurement of the ground and thus avoid claims for compensation. Before leaving camps and bivouac grounds all rubbish, such as empty preserved-meat, milk, and other tins, bottles, hay bands, &c., were collected in heaps near the margin of the camping-ground, and after burning were left ready for subsequent removal; burial was not permitted. Manure from the transport lines was removed to separate sites on the boundary of camping-grounds and left there for the occupier of the land on which the troops encamped. A senior officer was detailed by the officer in command of troops at each camp or bivouac to remain behind until after the departure of the troops, to see that camps and bivouac grounds were left thoroughly clean and fit for immediate occupation by other troops should occasion arise.

The places at which water for the men to drink and wash at, as well as water for horses, were marked by distinguishing flags or notice boards by the Royal Engineers, after selection by the sanitary officers. No water was allowed to be used for human consumption except water that had either been filtered in the service filter water-carts or that drawn from the standpipes of town supplies. Sentries were placed over the watering places and were given written orders as to their precautionary duties. Washing in horse troughs was forbidden. One non-commissioned officer or a private of the Royal Army Medical Corps trained in water duties was detailed to supervise the working of each filter water-cart; he was assisted by a private detailed by the unit concerned.

Camps and bivouacs occupied for more than one night were as a rule hired; other camps occupied by troops within the manœuvre areas were taken up under the provisions of the Manœuvre Act of 1897.

Food-supplies.

As far as possible the food-supplies and the transport services were carried out under active service conditions, the responsibility for the same being delegated to the commanders of the divisions. The manœuvre ration counted from midnight to midnight and consisted of (1) meat, ½ pound fresh and ½ pound preserved; (2) 1 pound bread or ¾ pound biscuit; (3) grocery ration, supplied from Woolwich; and (4) contractor's, haversack and vegetable ration.

The ½ pound preserved meat was eaten for breakfast and the ½ pound fresh meat ration for dinner. In addition to the above, ½ pound of preserved meat was issued on the same day as the rations for Sept. 15th for use as an iron ration. Rations (including grocery, haversack, and vegetable ration) and forage ration were issued each evening for the next day's consumption and were carried as follows:—

(*a*) On the man:—1. 1 pound of bread or ¾ pound biscuit (less the portion consumed at breakfast). Every two men, 1½ pounds of wood in the form of a bundle of sticks 10 inches to 12 inches long, and 1 pound preserved meat (in a tin called the iron ration). The iron rations (½ pound of preserved meat per man) were issued in 1 pound tins and were only to be consumed under the orders of the company commander in the exceptional case of the cook's wagon not reaching the men. When so consumed the fresh meat cooked for dinner was to be eaten by the man in lieu of ½ pound preserved meat at breakfast the next morning. Under ordinary circumstances

the 1 pound preserved meat current ration was consumed at breakfast. 2. Grocery ration:—

⅝ ounce tea. 2 ounces sugar. ½ ounce salt.	}	Woolwich ration, each in separate packets.

3. Haversack ration, for midday meal:—

4 ounces biscuit. 2½ ounces cheese.	}	Contractor's ration.

(*b*) In the cook's wagon (which formed part of the first line of transport):—

4. Camp kettles and butcher's implements.

½ pound fresh meat per man. 8 ounces potatoes ,, 1 ounce margarine ,, 2 ounces onions ,, ⅓ tin condensed milk ,, ⅛ ounce pepper ,, 1½ pound fuel wood ,,	}	Contractor's vegetable ration.

The price of each grocery ration was fixed at ½*d.* and the cost of the haversack and vegetable ration 3½*d.* per man. The men were charged at the rates they pay for messing in barracks, any balance being defrayed from the Regimental Institute funds.

Units were in possession of second line transport sufficient to carry one day's supply of bread, meat, groceries, forage, and fuel wood. These supply wagons were replenished from the transport and supply columns, which also carried one day's supplies complete. Each unit had distinguishing flags on all their vehicles provided regimentally. Tents were not as a rule used during the actual process of operations.

(To be continued.)

RECENT OUTBREAKS OF PLAGUE IN THE NEAR EAST.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

Plague in Jeddah.

THE epidemic, or annual revival, of plague in Jeddah, described in my letters to THE LANCET of April and May last, came to an end early in May. One fatal case occurred on the 4th of that month, and none subsequently. A fresh revival of the disease must, however, be anticipated in the coming winter. It may be noted in connexion with the internal sanitation of Jeddah and the other towns of the Hedjaz, in regard to the deficiencies of which repeated representations have been made to the Turkish Government for many years past, that an effect has at last been produced. That Government has created a special Commission or Council to deal with the question, and is taking steps to obtain the necessary funds for improving the sanitary condition of those towns.

Plague in the Yemen.

It will be recalled that plague appeared in the port of Hodeidah in April; that down to April 30th, 31 cases, with 24 deaths, had occurred there; and that between April 30th and May 5th, 8 further cases, with 5 deaths, were reported. Between May 5th and 17th there were 6 more cases; on the 17th and 18th 2 fatal cases; and on the 20th 1 case, also fatal. Finally, on June 10th it was stated that no fresh case had occurred for 15 days, and the measures in force on arrivals from Hodeidah were suppressed. The disease also appeared in three neighbouring villages.

Plague in Bushire.

An outbreak of plague occurred in Bushire and its neighbourhood in the spring and early summer of this year. The first case was seen in the village of Zulmabad, near Bushire, on March 28th; its nature was confirmed bacteriologically, and on the 31st Bushire was declared infected. The returns for the following weeks were as follows:—Weeks ending: April 2nd, 3 cases, 1 death; April 9th and 16th, 0 cases, 0 deaths; April 23rd, 4 cases, 2 deaths; April 30th, 4 cases, 3 deaths; May 7th, 12 cases, 8 deaths; May 14th, 7 cases, 6 deaths; May 21st, 5 cases, 6 deaths; May 28th, 17 cases, 13 deaths; June 4th, 3 cases, 3 deaths; June 11th, 3 cases, 1 death; June 18th, 3 cases, 2 deaths; June 25th, 1 case, 1 death. On July 1st Bushire was declared plague-free. The above cases and deaths were distributed as follows: In Bushire itself, 30 cases, 22 deaths; in Zulmabad village, 23 cases, 16 deaths; in Jabri village, 2 cases, 2 deaths; in Mahmudabad village, 3 cases, 3 deaths; in Reshire village, 4 cases, 3 deaths. There were in all 62 cases and 46 deaths. I am indebted for the above details to Captain C. B. McConaghy, I.M.S., chief quarantine officer in the Persian Gulf, who also adds that the rumour that the infection came to Bushire from Bahrein (where plague had been prevalent in the preceding year) was entirely unsubstantiated; that there was no increase in the numbers of or mortality among rats—these animals appearing to play no part in this outbreak; that a certain number of cases occurred among the *sarbazes*, or soldiers of the Persian regiment in garrison; and that there were the usual difficulties in dealing with plague among an ignorant and superstitious population. There was also nothing to show definitely that the infection came from India, and Captain McConaghy does not think it did, though he gives the following details, which seem to point to such a possibility: "Two days before the man Haidar (the first known case) was seen his wife had died. She had been visiting and also helped to nurse a fellow villager who had died some seven to ten days before. This villager was the sister of a coolie who used to work cargo on the Bombay and Persian steamers and had also died some days previously."

Plague at Basra.

A few cases of plague in man were, it will be recalled, seen at Basra at the end of April and beginning of May, and at the same time several infected rats were found and killed. On August 9th 3 fresh cases of the disease, with 2 deaths, were reported, all occurring in the same house in Basra; and a little later it was stated that the third patient had also died, and that a large number of dead rats had been discovered in the same quarter of the town. No further cases were recorded, and on August 23rd Basra was declared plague-free.

Plague in Odessa.

On May 22nd (June 4th) the attendant in a night-refuge in Odessa was found to be suffering from plague; he was removed to a municipal hospital, where he died on the 26th (June 8th). For the following 40 days no further cases were seen, but on July 6th (19th) a baker occupying a shop in the same quarter of the town as the night-refuge fell ill with the disease. Four days later his assistant was attacked; both slept in the bakery. On July 5th (18th) a girl, aged 16, employed in an adjoining restaurant, had died, and a bacteriological examination showed that she had died from plague. Dead rats were found on that and the adjoining premises, the floors of which were taken up and burnt. On July 13th (26th) a Jewish boy was admitted to the Jews' hospital. On July 20th (August 2nd) a case was seen in a sailor on a ship arriving at Odessa from Nikolaief. Cases continued to occur in Odessa through July and a great part of August. In all, between May 22nd and August 18th (Old Style) 77 cases of plague, with 19 deaths, were registered. There had been rumours of the existence of the disease in the government of Bessarabia, at Kief, and Nikolaief, but the Russian authorities have declared officially that the suspicious cases there were in every instance shown by bacteriological evidence not to have been cases of plague. The origin of the outbreak in Odessa was unknown, but it was thought that the infection had been brought by rats on shipboard from Alexandria. It may be noted that among the measures put in force in Odessa were the following. Every householder was compelled, under a penalty of three months' imprisonment or a fine of 300 roubles (£30), to have from one to three rat-traps, according to the size of his premises, and to set and bait them in accordance with the instructions issued by the authorities. Squads of municipal rat-catchers were formed. A reward of 10 roubles (£1) was offered to anyone reporting an undoubted case of plague. The last occasion of a plague outbreak in Odessa was in 1902, when (as also in 1901) a small number of cases of the disease were seen there.

Plague in the Kirghiz Steppes.

A small outbreak of plague in the Kirghiz Steppes of the Astrakhan government occurred in June and July last. Four villages in the Narynsk and Kalmuck portions of the Steppes

were infected. Between June 13th and 25th (June 26th and July 8th) 13 cases and 12 deaths were registered. A number of medical men were sent to the infected centres; anti-plague inoculation was, it is said, employed to a considerable extent; and on July 8th (21st) the Astrakhan government was officially declared plague-free.

Plague at Beirût.

On Sept. 29th an imported case of plague was seen at Beirût. The patient was a sailor on a coasting steamer, the *Syria*, which arrived, without passengers, from Alexandria on Sept. 27th. The ship had lain for 20 days in Alexandria, where sporadic cases of plague continue to occur, and there can be little doubt that the infection was contracted there.

Plague at Adalia.

On Sept. 21st (Oct. 4th) it was reported that a sweetmeat-seller in Adalia had been found to present symptoms of plague; he had been ill for three days. Next day a second case was seen. There seems little doubt that both were cases of plague. It will be remembered that each year since 1905 (included), with the sole exception of the year 1907, isolated cases of the disease have been seen in Adalia, and usually about the same period of the year.

Constantinople, Oct. 10th.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol: Conferment of Degrees.

THE new buildings are gradually becoming incorporated in the working University machine. It is true that the laboratories are not yet completely furnished, but some rooms are in use, and the Council was able to meet for the first time in the 1910–11 session in the room designed for that purpose in the new wing. The first Congregation of the University for admission to degrees was held on Oct. 20th at the Victoria Rooms. The city was reminded that this ceremony was about to take place by a procession through the streets of students in various costumes, starting from the University and returning by a circuitous route to the Victoria Rooms. The hall was absolutely full, admission being by invitation only. At the front of the platform sat the Vice-Chancellor and other officers of the University, the Deans of Faculties, the Lord Mayor and the Sheriff, and the Master of the Merchant Venturers' Society. Behind these was a large concourse of students, armed with various wind instruments, banners, and the other paraphernalia of the young barbarian. In front of the Vice-Chancellor was an open space to which those about to receive degrees were ushered; on his right sat the Council of the University, on the left the Senate, and on either side behind these the rest of the University staff. The remainder of the hall was filled with onlookers, members of the court, members of the city council, and others. At the back of the hall was another body of students. The honorary degree of D.Sc. was conferred on Professor C. Lloyd Morgan, who, as first Vice-Chancellor of the University, principal for over 20 years of University College, Bristol, and professor of psychology, has done great things for Bristol. That this is recognised was shown by the conferment upon him of the only honorary degree given at this the first graduation ceremony; by the eulogistic address with which he was introduced by Professor F. R. Barrett to the Vice-Chancellor; and by the tremendous ovation with which he was greeted. It was unfortunate that an otherwise dignified ceremony should have been to some extent spoilt by the students' interruptions, which would have been pardonable and even welcome had they been more conspicuous for quality of wit and less so for volume of noise.

The Association of Alumni.

The members of this association dined together on Oct. 21st at the Imperial Hotel, Clifton. Ladies were included in the company, which consisted not only of members of the association but also of many of the University professors and lecturers. In addition to the toast of "The King," proposed by Mr. G. Munro Smith, the President of the association, who was in the chair, the health of the University of Bristol was proposed by Dr. R. Shingleton Smith, whose recollections of the foundation of University College, Bristol, showed that it was largely due to the energy of those medical men who were in charge of the Bristol medical school before the College existed, and who felt that in enlarging their school its scope should be widened to include other branches of higher education. Sir Isambard Owen, the Vice-Chancellor, replied on behalf of the University, insisting especially on the pre-eminent need for men, and not for buildings or money only. The next toast, that of the guest of the evening, Sir Oliver Lodge, was proposed by Professor G. H. Leonard. Sir Oliver Lodge, in reply, showed points of similarity between the origin of the University of Birmingham and that of Bristol. The health of the association was proposed by Professor I. Walker Hall, and Mr. Munro Smith, in his reply, reminded his hearers that the objects of the association were to bring together past and present students of the University and to maintain a record of their careers. Letters from Sir William Ramsay and others regretting absence were read, and songs were contributed by Mr. F. H. Rose and Mr. A. M. Tyndall.

The University Settlement.

At a meeting held in the University on Oct. 21st, the Lord Mayor of Bristol presiding, Sir Oliver Lodge gave a most interesting address to a crowded audience. Speaking of the social problems of the twentieth century, he said that society should not be allowed to stratify; it should be stirred up. He did not consider that the work of a settlement lay in dealing with the "absolute dregs" of society so much as in preventing their precipitation by a scientific study of the causes underlying it. He spoke of the efforts made in Birmingham to provide means for such study and for the training of persons in social service, efforts which were leading to the formation of a school of practical economics. He insisted upon the importance of giving a definite training to those persons who would in the near future hold administrative posts under the reformed Poor-law and the like. A statement recently circulated among those interested says that the University Settlement in Bristol has in view the promotion of the general welfare in its own neighbourhood and the provision of a centre for social study and training. The committee in charge of the scheme recommends that temporary premises should be acquired, and that the building of a settlement with club-rooms, &c., should be delayed until some more definite idea of the shape and scope of the work has been arrived at. For immediate purposes £1500 are required to buy and equip premises in East Bristol; the maintenance will cost from £300 to £400 annually. Already over £720 have been subscribed or promised.

Bristol Eye Dispensary.

At a committee meeting of this charity held on Oct. 11th the resignation of Dr. A. Ogilvy was accepted with much regret. Mr. E. H. E. Stack was elected to the vacant post of full surgeon, and Dr. A. Fells, Mr. W. P. Taylor, and Dr. H. B. Porteus were elected assistant surgeons.

Scarlet Fever and Hospital Accommodation.

The need for a large increase in the accommodation available in Bristol for the reception of cases of infectious disease is being forcibly illustrated. Scarlet fever is prevalent in the St. Philip's and St. George's districts to such an extent that cases cannot be admitted into the city hospitals. Reference was made in this column a fortnight ago to the shortage of beds at the fever hospitals, and this outbreak has proved that expansion is a matter of urgent importance. The health committee has asked Dr. D. S. Davies, the medical officer of health, to report as to the necessary steps by which the situation may be temporarily relieved.

Phthisis in Bristol.

The Bristol board of guardians, after prolonged discussion of a scheme for purchase of a country estate near Bristol to be utilised as a sanatorium for pauper consumptives, has determined to confer with the health committee of the city council before taking any steps in the matter. The health committee has of late been exercised as to the inadequacy of accommodation for Bristol consumptives in the beds available for that purpose at the Winsley Sanatorium; so that a conference between the two bodies comes at a particularly fortunate moment and will, it is hoped, result in an adequate and coördinate scheme for the treatment of patients suffering from phthisis.

John Davies, M.R.C.S. Eng., L.S.A.

Mr. John Davies died at his residence, 8, Beaufort East,

Bath, on Oct. 10th, in his seventieth year. He received his medical education at the Birmingham Medical School and took the "College and Hall" qualification in 1863. After holding the appointment of house surgeon at the Stockport Infirmary Mr. Davies entered the Indian Medical Service and was for some time civil surgeon at Balasore. He retired from the service about 1870, when he commenced practice in Bath, and in 1872 was elected medical officer for the Walcot district of the Bath union, which appointment he only resigned last year. Mr. Davies was senior surgeon to the Bath lying-in charity. He was a good sportsman and a frequent follower of the Duke of Beaufort's foxhounds. By his death one of the oldest and best known medical practitioners has been removed from Bath, and much sympathy is felt there for his widow.

Fatal Accident to a Medical Man.

At the Bradford-on-Avon (Wilts) police court on Oct. 20th a domestic servant was charged with the manslaughter of Mr. Richard Thompson Cæsar, M.R.C.S. Eng., L.S.A., at Limpley Stoke. Evidence showed that the accused was riding a bicycle without a light about 7 P.M. on Oct. 7th. She did not sound a bell, and in the dark ran into the deceased, who was walking in the middle of the road. Mr. Cæsar sustained a fracture of the base of the skull and died in consequence on Oct. 17th. An inquest was held on Oct. 18th, when a verdict of "Accidental death" was returned, and the coroner, at the request of the jury, severely reprimanded the woman. After hearing the evidence the magistrates remanded the accused, on bail, for eight days. Mr. Cæsar, who was 73 years of age, resided at Bearsted, Kent, and was on a visit to Limpley Stoke. He was formerly surgeon to the Wellington Dispensary, Shirley Children's Hospital, and the Downton Cottage Hospital. Mr. Cæsar was at one time surgeon-colonel in the 2nd Volunteer Battalion of the Hampshire Regiment, and he had also been President of the Salisbury Medical Society.

Proposed Medical Officer of Health for Cornwall.

At the last meeting of the Cornwall County Council a discussion took place in reference to the proposed appointment of a medical officer of health for the county. The joint committee had previously recommended the sanitary committee to suggest such an appointment to the county council, and had mentioned a salary of £500, rising to £600 per annum. The sanitary committee, whilst recommending the council to adopt the joint committee's resolution, had proposed a reduction of the salary by 25 per cent. After some discussion, in which the chairman of the sanitary committee (the Hon. John Boscawen) stated that he was not in favour of the proposed reduction, it was decided, on the motion of Sir Arthur Quiller-Couch, to recommend the finance committee, as the authority which decides the question of the remuneration, to fix the salary as £500, rising to £600. It is satisfactory that the county council has adopted this course, as, after all, the proposed salary is quite small enough for such a position as medical officer of health for Cornwall.

Oct. 25th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

St. Mary's Hospitals.

THE old St. Mary's Hospital and the Southern Hospital threw in their lot together some years ago and a new hospital in place of the Southern was erected near the present infirmary buildings in Oxford-road. Unfortunately, however, the funds did not allow of the opening for patients of this well-appointed hospital for the diseases of women and children. Now, however, there is to be a benefaction of £2000 for the endowment of two beds in the gynæcological wards, given by Mr. Edward Hopkinson in memory of his father and mother, to be called the John Hopkinson and Alice Hopkinson beds. Mr. Edward Hopkinson's benefaction is, however, conditional on the hospital being opened for the reception of patients within six months' time. This offer, therefore, is a challenge to the well-wishers of the hospital and to the benevolent of Manchester which, it is to be hoped, will be responded to generously.

Housing in Hulme.

A public meeting was held in Hulme on Oct. 18th to consider whether a large area, formerly occupied by cavalry barracks, should be devoted to the building of houses or converted into an open space. Hulme is densely populated, so that an open space—a lung in popular phraseology—would in itself be a good thing. But, on the other hand, houses for working people are urgently needed. The corporation has in other parts of Manchester gone to great expense in the building of what the people for whom they were intended call "barracks." Now the working people of Manchester do not like barracks, euphemistically called "tenement" houses. As one of the speakers said, "They want houses, not warehouses." All these ventures into providing dwellings for the poor add to the burdens of the ratepayers, for they have always been a loss to the corporation. The people want cottages at a rent of from 3*s.* to 5*s.* a week. It is acknowledged that the corporation could only build such houses at a loss, but that does not alarm these dwellers in Hulme, so they passed a resolution unanimously to the effect that the corporation should "without delay" build houses on the barracks street site in accordance with the intention for which the land was purchased. Such is the pleasant prospect which opens out before the gaze of ratepayers, sanitary committees, and corporations.

No Mortuary at Crewe.

At a recent inquest at Crewe Dr. E. C. Bailey drew attention to the undesirability of making post-mortem examinations at private houses. In the present case his task had been very unpleasant, there being so many children about the premises. The foreman of the jury said it was equally unpleasant for the juries. Finally, the jury recommended the coroner to write to the Crewe corporation asking them to provide a mortuary. It is strange that in an important and growing town like Crewe a mortuary was not provided long ago.

Oct. 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Research Defence Society.

AT a meeting of the Edinburgh branch of the Research Defence Society held in Edinburgh on Oct. 21st an address was given by Mr. Stephen Paget, F.R.C.S. Eng., on Pasteur's Life and Work. Lord Dunedin occupied the chair, and among others on the platform were Sir John Batty Tuke, Sir A. R. Simpson, Professor E. A. Schäfer, Dr. G. A. Gibson, and Dr. W. Allan Jamieson. Lord Dunedin, in introducing Mr. Paget, explained the objects of the Research Defence Society and spoke in defence of scientific research. Mr. Paget then delivered a most interesting lecture, illustrated by lantern slides, on the work of Pasteur. He referred to Pasteur's early chemical discoveries, to his study of ferments, and to his study of disease in silkworms, begun in 1865, as a result of which he was able to show the causes of a condition so seriously affecting the silk industry in France. After the Franco-German war he began the study of diseases in man and animals, and discovered the principles of preventive inoculation. His work on anthrax had enormously diminished the mortality among sheep and cattle from this cause. In 1875 Pasteur demonstrated in the Paris hospitals the methods of aseptic surgery and proved to the French Academy of Medicine in 1878 the cause of puerperal fever. The lecturer also described the discovery by Pasteur of the preventive treatment of rabies. Among persons bitten by mad dogs and treated by the Pasteur method the mortality was 0·3 per cent. On the motion of Dr. Gibson a vote of thanks was given to the lecturer. The following office-bearers were elected:—President: the Duke of Montrose, K.T. Vice-Presidents: Lord Dunedin, P.C., LL.D., K.C.V.O., Sir William Turner, K.C.B., F.R.S., Sir John Batty Tuke, M.D., LL.D., and the Rev. A. Wallace Williamson, D.D. Honorary treasurer: Professor Harvey Littlejohn. Honorary secretaries: Dr. John D. Comrie and Dr. R. W. Johnstone. Professor Schäfer moved the adoption of the secretaries' and treasurer's reports, and Mr. J. M. Cotterill, Vice-President of the Royal College of Surgeons of Edinburgh, seconded.

Medical Graduation at Glasgow University.

The first of the autumn graduations in medicine took place at Glasgow University last week. Formerly only one final examination was held each year, but under a new arrangement there are now two—one in the spring and one in the autumn. Although the proceedings were of a formal character there was a large attendance in the Bute Hall, when Sir Donald MacAlister, K.C.B., presided. The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on 48 graduands, of whom one received the degrees with honours and three with commendation. Three ladies graduated amongst the number.

The Payment of Interim Medical Officers.

Recently Kilsyth town council appointed a medical officer of health for the burgh for the period of one year. On intimation being made to the Local Government Board that body has written to the council pointing out that there is no authority under the Public Health or Burgh Police Acts for the temporary appointment, and it does not regard such appointment as legal or fulfilling the local authorities' statutory duties under these Acts. The Board also points out that the salary paid to an interim officer cannot rank as a claim against the medical officer grant.

King's Cross Hospital, Dundee.

A special meeting of the public health committee of the Dundee town council is to be held to deal with facts connected with accommodation for scarlet fever cases in Dundee. The committee has recommended the provision of temporary accommodation at King's Cross Hospital for 20 beds, at a cost of £2100, in view of the large number of scarlet fever and diphtheria patients. The number of cases is not greater than it has been, but the demand for admission is greater. The accommodation for fever cases is 112 beds, and there are in the hospital 154 cases. The resident medical officer at King's Cross and three of the nurses are on the sick list.

City Hospital Alterations, Aberdeen.

After extensive alterations and additions the Aberdeen City Hospital has had its new buildings formally opened. The cost of the extensions will be over £10,000, and instead of accommodating 127 patients as formerly, 200 can now be treated. The nurses' accommodation has also been considerably enlarged, and a large recreation-room added for their use. The new wards are built of granite with ashlar masonry, the size being similar to the present ones, an allowance of 2000 cubic feet being provided for each bed. They are heated by radiators fitted up in the window recesses and are ventilated by opening fanlights over the windows and gratings in the ceilings connected with ventilators fitted up in the roof. Altogether the additions are important and should much improve the usefulness of this institution for the treatment of infectious diseases.

Infantile Mortality in Aberdeen with regard to Pneumonia.

In his report to the Aberdeen town council for September Dr. Matthew Hay, the medical officer of health, states: "The deaths among infants under 1 year of age amounted to 49 during the month, as against 46 in the preceding month, and an average of 44 for the month of September in the preceding five years. The slight increase in the total number of deaths was much more than accounted for by a considerable addition to the deaths from pneumonia. These amounted to 11, as compared with an average of less than two in the corresponding month of the preceding five years. In the previous month there was only one death from this cause. There was also a slight increase in deaths from pneumonia at the ages of 1 to 5 years; but it was far short of the increase among infants. I have specially inquired into the circumstance of the deaths occurring among children under 1 year. The illness seems to have been largely of a zymotic type, as, except in two cases, its duration was under ten days, and in most of the cases only two to five days. In four cases there was no history of previous illness. In the remaining seven, the infants had been weakly—some of them since birth. The majority of the infants had been bottle fed. All the deaths occurred among children of the labouring and artisan classes, and therefore in small houses. The cases were scattered throughout the city, and had no discoverable connexion with each other, or with any previous known case of pneumonia among the family or among the neighbours or relatives. It may be remembered that there was a similar sudden rise of death from pneumonia at the end of last year, but it was accompanied by a corresponding increase in deaths from bronchitis. On this occasion no deaths from bronchitis have been registered as occurring among young children. The sporadic character of the pneumonia resembles closely that of cerebro-spinal fever as experienced in this city, and suggests that the cases of pneumonia may have been provoked by some little-understood weather conditions that may render weakly infants less resistant to pneumonia micro-organisms, which are now well-known to be practically at all times widely diffused in every community."

Oct. 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mr. Birrell and the Local Taxation Account.

ON Oct. 24th a deputation representative of several of the principal municipal and county authorities waited on the Chief Secretary to discuss the failure of the Local Taxation Account, to which reference was made in THE LANCET last week (p. 1248). Though Mr. Birrell was unable to promise immediate relief from the Imperial Exchequer, yet he gave the deputation some crumbs of comfort. He realised fully the gravity of the present situation, and he also admitted that the local authorities were in no way to blame. The increase in expenditure in the asylums had been unavoidable, and a further increase must be expected. This being the position, the whole scheme must be reconsidered, and to this reconsideration Mr. Birrell pledged himself. As regards the present position, he stated that it would be found that the deficit would not be so great as was believed at present. The ultimate solution of the problem has to be faced, and Mr. Birrell has invited the aid of Irish public opinion. It is to be decided whether lunacy is in future to be regarded as a local or as an imperial charge; if the former, in what way is help from imperial sources to be given, as a fixed grant per year or a fixed sum per lunatic? Whatever solution is put forward it should be one with a reasonable prospect of permanence, and not be dependent on an inelastic or bankrupt fund.

Fagan Memorial Fund.

The friends of the late Mr. P. J. Fagan, whose sudden death was recorded recently in these columns, have issued a circular appealing for subscriptions to a memorial fund. Still a young man in professional life, Mr. Fagan had been unable to do more than make a very frugal provision for his wife and children, though he left not a single debt. It is proposed to direct whatever subscriptions may be received towards the education of his children. Already a promising return is being made. Mr. R. F. Tobin, 60, St. Stephen's Green, Dublin, is one of the honorary treasurers.

Belfast Natural History and Philosophical Society.

The report presented to the annual meeting of the members of this society, held on Oct. 12th, showed that the negotiations between the society and the city council have been practically completed by which the specimens in the museum will be ultimately lent on permanent loan to the corporation, and will be located in the new municipal museum. Sir John Byers was elected, for the third year in succession, president of the society.

Oct. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Professor Ehrlich's New Remedy, "606."

THE Academy of Medicine has devoted a portion of several of its meetings to discussions on Professor Ehrlich's new remedy "606," which has aroused such widespread interest throughout the medical profession. The subject was introduced on Oct. 4th by M. Hallopeau, who expressed the opinion that "606" did not fulfil the conditions of reliability and complete harmlessness necessary to justify the

eulogies which have been bestowed on it. He said that there have been already 14 deaths attributed to it, two of them in Paris, and it was possible that unrecorded cases of a fatal termination have occurred in private practice. Instances of blindness due to this cause have been met with, and it was beginning to be known that patients who had been treated for syphilis in this manner might have relapses of the disease. Its administration has also been followed by various disorders and derangements of the health, such as paralysis of the legs, paralysis of the bladder, albuminuria, diarrhœa, epileptiform attacks, and pneumonia. Hectine, which he had made known to the Academy some time ago, appeared to him to be far preferable; it was quite harmless, and none of the patients who had been treated with it at a sufficiently early stage has as yet suffered from relapses. M. Netter interposed with the remark that a man of Professor Ehrlich's high standing was worthy of credit. M. Balzer said that he agreed generally with the opinion expressed by M. Hallopeau. He regretted that no information was obtainable with respect to the deaths which had followed the administration of the new remedy, because if the facts had been disclosed practitioners might have been able to learn something from these enlightening incidents. He feared that medical men with no more than a superficial knowledge of the subject would yield to the entreaties of certain patients and resort too readily to powerful medicines the dangers of which had not been fully investigated. On Oct. 11th M. Netter read a letter which Professor Ehrlich had written to him in reply to the unfavourable comments made at the previous meeting. Professor Ehrlich said that he had not met with any instance of blindness consequent on the use of the new remedy. There had been one death of a patient who was a lunatic, and in reference to this he remarked that great caution was necessary in giving "606" to patients suffering from lesions of the nervous system. He concluded by saying that hectine, which was recommended by some French practitioners in preference to his new remedy, was patented in Germany, just as "606" was. On Oct. 18th M. Hallopeau, replying to Professor Ehrlich's letter, said that he could not understand why Professor Ehrlich refused to acknowledge the two cases of blindness which had followed the administration of "606" and had been reported in Germany. Professor Ehrlich considered that 12 deaths among patients who had received 8000 injections was a small mortality, but M. Hallopeau maintained that it was a high mortality as compared with hectine and some other antisyphilitic remedies which had never been followed by fatal results. To these 12 cases it was necessary to add four others which had occurred in Paris. M. Hallopeau gave an account of a case which supported his contention that a patient might recover completely from syphilis under the use of hectine; the individual in question was a man who, after treatment with hectine some months ago, was found to have contracted a second attack of syphilis. As syphilis usually confers such a degree of immunity that a second infection is decidedly uncommon, the inference is that the patient under the care of M. Hallopeau recovered completely from the disease and was practically in the condition of a person who had never suffered from it. M. Mouneyrat protested against a statement made by Professor Ehrlich to the effect that hectine was first made known in Germany and was patented there in 1906. An examination of the records, samples, and descriptions of manufacturing processes preserved in the German Patent Office showed that hectine was not one of the arsenical compounds patented at the time stated; indeed, it was probable that Professor Ehrlich had never had hectine in his possession. The new remedy "606" received more favourable consideration at a meeting of the Société Médicale des Hôpitaux held on Oct 14th, its therapeutic efficacy being highly commended by M. Jeanselme, M. Laignel-Lavastine, M. Touraine, M. Milian, and M. Netter. M. Jacquet said that it was advisable to be cautious in the use of antisyphilitic remedies, as some of them set up irritation which might cause tertiary syphilomata.

Precautions against Cholera.

As the epidemic of cholera in Naples has not yet subsided, measures of precaution continue to be taken on the French frontier. Every traveller coming from Italy, even although provided with a permit granted by the Italian sanitary authorities, is examined by French medical men in the railway station at Modane, and thereupon receives a permit which he must deliver to the police on arrival at his destination, at the same time informing them of the address at which he resides. Travellers coming direct from Naples are very strictly scrutinised. If they present even the slightest suspicious symptoms they are detained at Modane and isolated for the full period of incubation, which may be as long as seven days, after which, if there have been no further symptoms, they may continue their journey. As a general rule, there is no disinfection of travellers' luggage.

Oct. 25th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

A Congress on the Care of Persons Suffering from Mental Defects.

AN International Congress on the care of persons suffering from mental defects was held recently in Berlin and was attended by a great many visitors from various European nations. The first subject that was considered was the connexion between civilisation and mental diseases, the discussion being opened by a paper read by Professor Tamburini of Pavia. He took the view that mental diseases had not increased in consequence of the progress of civilisation, but that their form had altered. The epidemic diseases formerly ascribed to mystic and even demoniacal influences, such as the flagellantism and the St. Vitus dance of the Middle Ages, had disappeared; hysteria, which was so frequent in modern times, prevailed in former centuries also, but was known by other names. Instead of the above mental diseases others had come into existence, caused by nervous overstrain, by the abuse of spirituous liquors, and by syphilis, but they might be counteracted to some extent by judicious precautions. Professor Rüdin of Munich said that epidemics of mental instability existed in the present day, but they did not now lead to the disorderly scenes which characterised their predecessors in the Middle Ages; he alluded to "Christian Science" and some other "comical" sects, as well as to the traumatic hysteria which in Germany had seized the working population since insurance against accidents had become compulsory. Civilised nations were undoubtedly showing symptoms of degeneration in consequence of modern endeavours to protect the weaklings and degenerates who formerly perished, and the offspring of these persons inherited their defects. Dr. Hellpach of Carlsruhe read a paper on psychopathological features in modern art and literature, illustrating his remarks by an analysis of modern novels and dramas from a psychiatric standpoint. Another subject of discussion concerned mental diseases in the army. Dr. Deknatel, of the Dutch army, said that the increase of insanity in armies was partly owing to overexertion, due to the fact that battles fought with modern weapons and in accordance with modern tactics made greater demands on the bodily and mental capacity of a soldier than could be borne by psychopathic recruits. All recruits ought to undergo psychiatric examination. Dr. Krause, of the German army, said that in Germany great stress was laid on precautionary measures, by which men who were either neuropathic or suspected to be so were as much as possible excluded from conscription, and the recruiting officers made careful inquiries as to the mental state of intending recruits. Nevertheless, a number of psychopathic recruits entered the army; continued misdemeanour, notwithstanding frequent punishment, was very often a sign of a psychopathic state, and such offenders should be observed by alienists. In several garrisons elementary lectures on mental diseases were now delivered to army officers by members of the Army Medical Corps, with a view to assisting the recognition of suspected cases. Dr. Krause stated that during the war in South-west Africa the incidence of insanity increased by 5 per cent. owing to the over-exertion of the men. Dr. Puetet, a French medical man, stated that the number of psychopathic persons was especially great among the volunteers. Professor Marie of Paris read a paper on the Importance of Wassermann's Reaction for the Diagnosis of Syphilitic Diseases of the Central Nervous System. He said that if the spinal fluid obtained by lumbar puncture gave a positive reaction syphilis was undoubtedly present and mere neurasthenia might be excluded. A discussion on Sleeping Sickness was opened by

Professor Ehrlich of Frankfort. He said that a certain likeness existed between general paralysis and sleeping sickness, because both diseases were influenced by the same pharmaceutical preparation. The trypanosoma was obviously of a different resistance against arsenic in different districts. In the colony of Togoland a "sterilisatio magna" was obtained without danger by doses of his preparation No. 606 which in East Africa were dangerous to life and at the same time failed to produce any beneficial effect on the disease. He had had good results by a combination of arsenic with trypan-red. In some cases treated in this way the patients had regained their health and remained quite well for the last eight months. Both general paralysis and sleeping sickness were very resistant when the microbe causing the disease had made its way into the spinal fluid, because the endothelium of the spinal meninges hindered chemical compounds of high molecular weight from entering. This difficulty must be overcome by the discovery of new preparations possessing similar therapeutic properties but of less molecular weight, and he hoped to be aided in this work by the alienists. Dr. F. W. Mott of London, in showing numerous microscopical preparations of the disease, said that sleeping sickness was only a clinical symptom of trypanosomatosis, caused by a perivascular infiltration of the cerebral vessels. He said that the trypanosoma was the same in every patient and that the disease was spread by a creature (a species of tick) which was everywhere the same. He proposed to term the disease human trypanosomatosis instead of sleeping sickness. Other papers read before the congress dealt with the importance of careful supervision of infants and young children, with a view to the prevention of idiocy and psychopathy, the establishment of sanatoriums for nervous patients of the less wealthy classes, and the teaching of forensic psychiatry. An exhibition was held in connexion with the congress and was very well attended.

Centenary of the University of Berlin.

The University of Berlin celebrated its centenary on Oct. 11th and 12th amid great manifestations of enthusiasm and a succession of impressive ceremonies. The principal event of the proceedings was an address delivered by the Emperor, who announced that a large sum (about £500,000) had been collected and given to him by private benefactors on the occasion of this centenary, and that with the approval of the Government he intended to employ this money for the erection of scientific institutions. In these institutions men of acknowledged eminence in their various fields of research would have an opportunity of devoting themselves exclusively to scientific work, unhindered by having to undertake the duties of university teachers and examiners. The institution for experimental therapy in Frankfort under Professor Ehrlich would serve as a model for the proposed institutions, from which medical science would unquestionably derive much advantage.

Oct. 24th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Memorials to Professor Nothnagel and Professor Gussenbauer.

Two memorial tablets, with very lifelike sculptured representations of Professor Nothnagel and Professor Karl Gussenbauer, were unveiled recently in the Aula of the University of Vienna. Professor Nothnagel, who died a couple of years ago, was characterised by great suavity of manner in his dealings with patients; he had a favourite saying to the effect that only a kind-hearted man could be a good physician, and this motto was inscribed on the tablet erected to his memory. Professor Gussenbauer was the successor of the famous surgeon Professor Billroth, whose intimate friend and pupil he had been, and he had a very brilliant career; though his manners were curt he won the esteem of everybody with whom he was brought in contact, and the fund for raising a tablet to his memory received very liberal support.

Disappearance of Cholera from Vienna.

During the four weeks which have elapsed since Sept. 23rd not a single case of cholera has been notified in the city and the cholera committee has therefore been dissolved. It was due to the combined efforts of the municipal and Government authorities that the threatening invasion was warded off. Altogether 7 cases with 3 deaths were observed in the city, and of these attacks all but one could be traced directly to the Hungarian steamers plying on the Danube between Vienna and riverside places in Hungary. It is now taken for granted that the river Danube is infected in the lower parts of its course. Amongst other precautions, a special look-out was kept on the portion of it within Vienna to prevent people from using the river water, which was not unlikely to be polluted by the infected Hungarian vessels moored in quarantine. The sale of grapes, 60 per cent. of which come to Vienna from Hungary, was also under very strict supervision. The energetic measures that were taken have caused much dissatisfaction amongst tradesmen, but the result upon the public health was most satisfactory. The extra expenditure under this head up to the present time amounts to £14,000.

Open Spaces in and around Vienna.

A favourite idea of the late Mayor of Vienna, for which future generations will owe him unbounded gratitude, is gradually coming into practical operation. He was the first to recognise that a broad ring of gardens, parks, and heaths round great Vienna was essential for the health of the population. He therefore always refused his consent to plans of building cottage suburbs around the city, but insisted on the laying out of parks. His projects were well received by the population, and when recently an extension of an existing park in the north of the city was opened it was at once called by his name, in disregard of its official designation. At present there is a girdle or zone of some 1400 yards breadth, consisting partly of cultivated land and partly of uncultivated areas, which completely encircles the city at a distance of some six miles from its centre. This area is not to be built upon, and beyond that circle only cottages with gardens in front and behind may be erected. There will also be an abundant supply of water for ornamental ponds and other purposes. At present there are eight large parks in Vienna with an area of more than a square mile, whilst smaller gardens are scattered all over the inner districts. The latest addition to the park measures a quarter of a mile on each side and consists chiefly of grass plots for the benefit of the children.

Professor Tandler's First Official Lecture.

Professor Tandler, the successor of the late Professor Zuckerkandl, opened the winter session of the Anatomical Institute with a lecture on the Correlation between Clinical Work and Anatomy. As is the custom here, a large number of professors witnessed the "maiden speech" of their new colleague. He pointed out that the practitioner must obtain help from the anatomist, and that it was an error to suppose that the anatomist begins where the practitioner leaves off, because a knowledge of anatomy was indispensable for nearly all modern operations and for many therapeutical procedures. Professor Tandler said that anatomy also helped the physiologist and the original investigator, both of whom contributed to the success of the practitioner at the bedside. A large number of students and medical men attended the lecture, and the presence of more than 80 female students showed that the professor is a pioneer in the movement for the admission of women to the study of medicine.

Phosphorescent Bacteria.

Although the connexion between gardening and bacteriology is not very apparent, some interesting bacteriological specimens were to be seen at a flower show and exhibition of garden produce recently held in Vienna. They consisted of a number of plates with cultures of Pseudomonas lucifera and Bacterium phosphoreum, prepared by Dr. Molisch, director of the Physiological Institute, who has devoted special attention to the study of phosphorescent bacteria. The first-named micro-organism was discovered on shellfish, and is now cultivated in gelatine containing 1 per cent. of peptone. Cultures of this bacterium emit a bluish-green luminosity capable of lighting up a small room to such an extent that large print can be read. This is the only genus of bacterium which gives off rays visible in the spectrum. Dr. Molisch has found that meat which has been kept for some time, slices of boiled eggs, and potatoes are the best media for cultures of the Bacterium phosphoreum, which can be made to intensify its brilliancy

by variation of the media. The light is not accompanied by heat rays capable of detection by any known method. These self-luminous cultures have aroused much interest and form an attraction for many medical men.

Oct. 24th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

SINCE the first week in August there has been a continuous increase in mortality from plague, the total reported deaths for the week ending Sept. 10th being 2057, as compared with a total of 610 four weeks back. The latest provincial figures are: Bombay Presidency, 625; the Central Provinces, 402; and the United Provinces, 135; while Central India returns 256 deaths. The worst affected district in British India is the Buldana district in Berar, which has suffered a mortality of 162. Baroda State accounts for just under one-third of the deaths reported from the Bombay Presidency.

Proposed Medical College for the Central Provinces.

Three proposals have been put forward regarding the form of a memorial to his late Majesty King Edward for the Central Provinces, viz.: (1) King Edward Sanatorium for consumptives; (2) King Edward Medical School; and (3) King Edward Scholarship. Rai Sahib Mathura Prasad, pleader of the Central Provinces, favours the second of these schemes, and has prepared an interesting note on the subject in the course of which he says: "Every province in India has been provided with at least one medical college to meet local requirements and to remove local wants. There is certainly no reason why our province, with its teeming population and the rapid advance it is making in the march of civilisation and progress, should be thrown in the cold shade of neglect. How will it be possible for the Central Provinces without a proper training institution to stand up in competition with other provinces when Lord Morley's scheme of constituting a medical service consisting of Indian medical practitioners only is put into execution? Moreover, evidence will not be wanting to prove that candidates of our province who had the courage and means of going to other provinces have been denied admission into the colleges of those provinces on the simple ground that those institutions were intended more for local boys than for foreigners. The heavy expenses and the risk which the prolonged residence in distant provinces involves prevent many aspirant youths from joining the profession, which relieves human sufferings. The total absence of any medical college in our province for the proper training of men in this noble profession is responsible for the paucity of qualified candidates to take charge of dispensaries and hospitals. Instances will be at once forthcoming to show that a large number of dispensaries could not be opened in this province for want of qualified men in spite of the funds made available for their maintenance and support. There is thus abundant proof that the medical service and the profession are undermanned with us." He quotes figures showing that only one medical man is available for every 31,256 persons, and only one dispensary for every 60,442 persons. The existing number of hospitals and dispensaries, he says, are so situated as to allow daily only 9633 persons out of the total population of the province to get medical relief. The wholesale extension of medical help into the interior of the provinces amongst a mass of village population which is at present at the entire mercy of illiterate, ill-educated, and untrained persons, will speedily put a stop to the heavy mortality of men, women, and children who are dying in large numbers from sheer want of proper administration of medicine and medical assistance.

Instruction in Malarial Fever Prophylaxis at Amritsar.

The anopheline mosquito is not a particularly large insect, and it is remarkable to reflect how much laborious research its little body and malignant activities can give rise to. Six hard weeks of study were spent at the beginning of the hot weather of this year by the malaria class held in Amritsar and its instructors in verifying most of what is known about this ubiquitous form of life and its habits, and during the time so much was accomplished that is by no means easy even to give a *résumé* of the work done in a short space. In order to show the thorough nature of the researches undertaken it may be observed that the first fortnight of the course was devoted to the examination of the mosquito itself, both of the anopheles and culex varieties, and of either sex of each. The general appearances and particular features, not only of the full-grown insects, but also of the larvæ and nymphæ, were carefully noted, and the methods were learned of searching for, collecting, mounting, and identifying larvæ and of breeding out and collecting adult mosquitoes, as well as the chief anatomical features of the insects. A study of scale structure was entered into to facilitate the identification of anopheline genera, while the species were distinguished by means of synoptic tables. The third week was devoted to "blood work"—the study, that is, of methods of obtaining blood specimens in villages exemplified by the collection of films in Amritsar and the neighbouring villages. Next came the dissection of the mosquito and the study of its anatomy and various stages of development in detail, which occupied the fourth week, during which the systematic collection of adult anopheles in villages and their internal examination was carried out by members of the class, while opportunity was also taken to study the ova of as many species of anopheles as possible. Malarial survey-work in field and laboratory, map entries, critical examination of mortality statistics of affected areas, and a close study of social and economic conditions occupied a further fortnight, and after the completion of the work in Amritsar city a malario-physiographical survey was made of a neighbouring rural tract, affording much detailed discovery useful for registration. A few more days were devoted to revision and to methods connected with the clinical study of malaria, and throughout its period of study the class was privileged to examine special collections sent from Burma, Bengal, Madras, Bombay, the Punjab, and other regions through the kindness of various officers, as well as a large collection of selected slides showing parasites. If there are medical officers in India ignorant of the true inwardness of malaria and of its conveyers these were evidently not at Amritsar during March and April of this year. There can be no doubt that India will have reason for gratitude in plenty to those whose attendance at the thorough-going class in question will have invested them with a complete and detailed knowledge of one of India's most formidable enemies.

Sept. 21st.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Child Mortality.

IN September of last year I noted the results of questions put to a thousand Chinese mothers who came to the British Charitable Hospital out-patient clinique. I found it impracticable to get the ages at which the children died, but this was to some extent regulated by leaving out elderly women whose families had time to grow up, thus eliminating adults. The mortality of the first thousand was somewhat heavier than that of the second, but, as the figures will show, there is an appallingly high death-rate such as would not at the present time be tolerated in any European country.

1000 mothers each year.				1909		1910
Total number of children born...	...	...		4723	.....	3555
,, ,, ,, ,,	alive...	...	...	2342	.....	1899
,, ,, ,, ,,	dead...	...	...	2381	.....	1656
,, ,, ,, boys	alive...	...	...	1301	.....	1023
,, ,, ,, ,,	dead...	...	...	1253	.....	869
,, ,, ,, girls	alive...	...	...	1041	.....	876
,, ,, ,, ,,	dead...	...	...	1128	.....	787

In Hong-Kong, where there is birth registration, the infant mortality last year was *873 per 1000* among Chinese. It will be seen from the above table that the male births are in excess of those of the females. In European countries the female births steadily exceed those of the males and in England certainly there has been this female preponderance for a number of years. In some notes made by Dr. E. M. Merrins of Wuchang in Mid-China these results are corroborated. He found that in a series of anthropometrical

measurements on 1920 young Chinese the birth-rate was 64 per cent. for boys and 36 per cent. for girls. He also found the death-rate among the girls to be 7 per cent. higher than that of the boys. The average family all over the Empire consists, including parents, of 6·5 persons, but deaths reduce this figure to 4·5. It is interesting to compare this with the average of English and American homes, as no less a statesman than ex-President Roosevelt thinks that the Chinese at the present day are not increasing relatively as fast as the Anglo-Saxons, who will consequently soon be within measurable distance of equality with them in point of numbers, and therefore the industrial and commercial competition of the Chinese need not be feared abroad. Figures such as I have given should emphasise the need of national and provincial bureaux of vital statistics. There is now an intense national feeling among the Chinese to come into line with other civilised nations, but there still remain the utmost apathy and indifference to human life and public health.

Prohibition of the Importation of Cocaine.

The Imperial Maritime Customs have issued a notification to the effect that the manufacture in China by Chinese and foreigners of cocaine and of syringes, needles, and such-like instruments for its use is absolutely prohibited, and the importation of the same into China is likewise prohibited except in the case of duly qualified foreign medical practitioners and foreign chemists. The latter must conform to certain regulations which state that "duly qualified medical practitioners desiring to import cocaine or instruments for its use must sign a bond before their Consul stating the quantities to be imported and their value. Foreign chemists must adhere to the same conditions." Duty will be levied at the rate of 5 per cent. *ad valorem*.

The Cocaine Habit.

Not long ago a memorial was presented to the Throne by a provincial Viceroy, in which the attention of the Imperial Government was called to the fact that since laws had been established restricting the sale and use of opium the Chinese in no small numbers were finding consolation in cocaine. While in morphinomania the practice may cover an indefinite period without marked effect on the nervous system, the results of taking cocaine habitually are distinctly disastrous. Within five or six months a man may become a mental degenerate, not infrequently developing temporary insanity. An outbreak of the habit occurred last spring among marines in the American Legation Guard at Peking, and six privates were found suffering from it. The surgeon in charge, Dr. W. D. Owens of the United States Navy, in a series of 10 cases detected as an important sign, which has not hitherto been included in the usual classical description, epistaxis and ulceration of the nasal mucous membrane. In one patient who sought treatment for nasal catarrh, in addition to the ulcers, examination elicited necrosis of the nasal chambers. The usual mode of taking cocaine among Chinese and foreigners is by snuffing it or by cocaine-containing catarrh snuffs. Two patients who had been under treatment for epistaxis subsequently gave decided signs of being cocaine habitués. The epistaxis is accounted for by the severe congestion produced by cocaine upon the Schneiderian membrane and the increased blood pressure incident to its use. The impurities in many of the preparations used also have an ulcerative effect upon the sensitive membrane. An opium smoker suffering from the mental depression which ensues on eschewing the opium habit finds in cocaine a feeling of pleasure, relief from worries, a sense of elation, new life, and increased mental vigour. Hypodermic syringes are not much used in China, the method preferred being a quill, by means of which a dose can be passed well into the nasal cavity. It is to be hoped that the new regulations will be sufficient to prevent the easy purchase of cocaine, though in the absence of any coast preventive service there is no country in the world into which it is less difficult to smuggle goods or drugs of any description than China.

Sept. 26th.

A DEVONSHIRE CENTENARIAN.—Mrs. Caroline Sutherland of Plympton, who celebrated the hundredth anniversary of her birthday on Oct. 19th, 1909, died on Oct. 9th last.

Obituary.

DAVID HALKET STIRLING, M.D. EDIN.

THE death of Dr. D. H. Stirling, which occurred on Oct. 14th, as briefly mentioned last week by one of our Scottish correspondents, has been much regretted in Perth, his native city, where he spent a long and useful life in the service of all classes of his fellow citizens, and where, although he had reached the age of 81 and had retired from the more active duties of his profession, he remained a notable personality. His energy was remarkable, and throughout his career he was one of those able practitioners who cannot confine their interest to the technique of medicine and surgery His sense of duty led him to undertake social work and to labour continuously in many fields of usefulness where there seemed opportunity for the improvement of the people and the relief of human suffering. Therefore his death has left a great gap among his fellow-citizens at large, while "from the intimate personal point of view," writes one of his friends, "in the course of all the changes and experiences of a generation, never once did he fail in ready aid, never once did he turn aside from the way of kindness."

Dr. Stirling was born in Perth and was educated in the academy of his native town. Thence he proceeded to Edinburgh, where he graduated as M.D. and became a Licentiate of the Royal College of Surgeons in 1853. Thereafter he pursued his studies in Paris and Vienna, but he held that his education could never be completed until he was no longer able to appreciate the advances which are daily being made in his beloved profession. That was characteristic of his agile and untiring brain, and in the end he had the help of his daughter in pursuing his researches. After working for a time at Gray's Hospital and the District Asylum of Elgin Dr. Stirling returned to Perth and entered upon the work of general practice. He at first had doubts if he were right in continuing in a county town of moderate size, but happily he was persuaded and did not remove to a larger sphere. He found his place of trusted usefulness, as many other distinguished men have, in a centre where the advantages of a great population or a university are absent.

From 1868 until 1884 Dr. Stirling served on the staff of the Royal Infirmary, Perth, and there instituted a reorganisation of the nursing department as one of the improvements which marked his term of office. When he was appointed consulting medical officer the directors expressed their appreciation of the value of his work, and retained the advantages of his experience in conferring with him from time to time. It had become evident to Dr. Stirling that the Royal Infirmary could not undertake the care of the sick and afflicted of all kinds, and he conceived the idea of instituting the Hillside Homes for Treatment of Chronic Ailments to make good this defect. This institution was begun in a modest way; but with indefatigable zeal Dr. Stirling gathered round him influential supporters, and impressed them with new ideals as experience led him to develop the Homes. The original principle of limiting the sphere of its operations to incurable patients was found to be too partial. From year to year, therefore, the operations of the Homes have been enlarged, and all kinds of chronic patients have been admitted and suitably treated, in the various houses of the institution, the number for last year having been 246. The sanatorium branch of the Hillside Homes has been provided for phthisical cases in the early stages, and much good work has been done under Dr. Stirling's fostering care. The large sum of money which he collected during the last 33 years has been applied to the building and maintenance and to an endowment fund which gives stability to the whole institution.

Dr. Stirling's deep religious habit of mind was shown early in his career, for he was the founder of the City Mission, and continued to act as secretary till the end of his life. The poor people succoured by the mission were mindful of what he had done for them, and only a few months ago he was presented with an illuminated address bearing the touching words that "many would have liked to have shared in the testimonial, but only the poor were allowed to subscribe, and more than 400 gladly gave their mites." His medical colleagues also presented Dr. Stirling with his portrait on the occasion of his professional jubilee. He was thus fortunate

in the recognition of his worth and the encouragement afforded to him by his many friends.

Dr. Stirling married the sister of the late Dr. Lauder Lindsay. She predeceased him, as also did his son, Mr. James Lindsay Stirling, of the India Civil Service. Dr. Robert Stirling, his elder son, is a medical practitioner in Perth. It should be added that Dr. Stirling travelled widely and had a great admiration and personal knowledge of foreign missions. He wrote on leprosy in Norway, on medico-legal investigations, and on pulmonary tuberculosis.

Medical News.

THE SOCIETY OF APOTHECARIES OF LONDON.—As we announced last week, the Master and Wardens of the Society of Apothecaries attended Divine service on Oct. 18th, St. Luke's Day, at St. Anne's by the Wardrobe, and dined together in the evening at their Hall, the occasion being the induction of the new Master, Mr. A. T. Norton. The guests were the Deans of the Medical Schools and the Court of Examiners. After the loyal toasts, "The Society of Apothecaries" was proposed by Mr. E. Parker Young and responded to by the Master, who took advantage of the occasion to discuss the subject of the removal of names from the Register for "infamous conduct" and the objects of the private Parliamentary Bill recently promoted by the Society. In reference to the former, he said all the men whose names were removed from the Register deserved their punishment, but there were some pitiable cases of hard-working men whose names were removed for allowing an unqualified man to see patients. Such painful cases should be prevented; the circumstances leading up to the breaking of that law could be avoided, and as there were present many general practitioners in large practice and many lecturers and teachers on the staff of every large hospital and medical school, it behoved every one to bring to the notice of students about to enter into general practice that they should never have in their establishment any sort of assistant unqualified, and yet in his own estimation capable of visiting and prescribing for patients, for should they do so they would be sure to make use of his services at a pinch and thus render themselves liable to have their names removed from the Register. The Society of Apothecaries held an examination for dispensary assistants of both sexes, a searching examination on the knowledge of drugs, poisons, doses, incompatibles, method of dispensing, &c., qualifying candidates to assist medical men, not to act as pharmaceutists or to keep shops. On the subject of the private Bill recently promoted by the Society, the Master said the object of the Bill was to place the Society on a par with other examining bodies in the granting of diplomas in public health, dentistry, &c. The Act contained words to the effect that examining bodies holding examinations in medicine and surgery might grant diplomas in those subjects registrable by the General Medical Council. Other examining bodies had taken care that they should be specially mentioned in an explanatory clause as colleges, faculties, and universities, &c., and as the Society of Apothecaries did not come under one of these titles counsel had given the opinion that the General Medical Council could not register such diplomas granted by the Society. There could be no question that the Act was never intended to exclude the Society of Apothecaries, but he was given to understand that the private Bill was not proceeded with not on account of objectors, but on account of the fact that it would over-ride the Act of Parliament. The examining bodies, and indeed the whole profession, were in a state of unrest with regard to the Medical Acts, and these would certainly undergo revision as soon as a Government of either political creed could give time to their consideration, and the Society must see that it stood in by name with the other examining bodies. The toast of "The Deans of the Schools and the Court of Examiners" was proposed by the Senior Warden, and responded to by Sir John Broadbent for the Deans, and by Dr. J. W. Carr for the Court of Examiners. "The Chaplain and Preacher of the day," proposed by the Junior Warden, was responded to by the Chaplain. Between the toasts the company were agreeably entertained by well-rendered music.——At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—N. S. Adler (Sections I. and II.), Berlin; D. E. S. Davies (Sections I. and II.), King's College Hospital; E. B. Keen (Section I.), Charing Cross Hospital; J. K. Nariman (Section II.), Bombay and St. Mary's Hospital; and H. S. Tumber (Section II.), Sheffield.

Medicine.—G. A. Crowe, London and St. Thomas's Hospitals; E. D. Richardson (Section II.), St. Mary's Hospital; and C. J. Thompson (Section II.), Birmingham.

Forensic Medicine.—J. G. Lewis, Durham; and G. S. Richardson, Leeds.

Midwifery.—J. E. S. Sheppard-Jones, St. Thomas's Hospital.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—J. K. Nariman, E. D. Richardson, and H. S. Tumber.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. R. Jolly, *privat-docent* of Gynæcology, has been granted the title of Professor.—*Bologna:* Dr. Giuseppe Silvio Torri has been recognised as *privat-docent* of Medical Pathology.—*Budapest:* Dr. Felix Szontágh, *privat-docent* of Pædiatry, has been granted the title of Extraordinary Professor.—*Genoa:* Dr. Livierato, Extraordinary Professor of Internal Pathology, has been promoted to be Ordinary Professor.—*Göttingen:* Dr. Creite has been appointed *Oberarzt* of the Surgical Clinic.—*Halle:* The Charge of the University Otological Clinic being vacant through the death of Professor Schwartz, has been given during the vacancy of the professorial chair to Dr. Jsemer, who has been granted the title of Professor.—*Heidelberg:* Dr. Kurt Laubenheimer of Giessen has been recognised as *privat-docent* of Hygiene.—*Kharkoff:* Dr. Svietukhin, *privat-docent*, has been appointed Extraordinary Professor of Medical Diagnosis.—*Lausanne:* Dr. A. Eperon has been promoted to the chair of Ophthalmology in succession to the late Dr. Marc Dufour.—*Naples:* Dr. Fredrico Mazonne has been recognised as *privat-docent* of Surgical Anatomy and Operations; Dr. Raffaele Chiarolanza as *privat-docent* of External Pathology; and Dr. Luigi Guglianetti as *privat-docent* of Ophthalmology.—*Prague (German University):* Dr. Anton Ghon of Vienna has been appointed Professor of Pathological Anatomy.—*Vienna:* Dr. Heinrich Reichel has been recognised as *privat-docent* of Hygiene; and Dr. Michael Eisler, Edler von Terramare, as *privat-docent* of General and Experimental Pathology.

THE MURDER OF MAJOR JAMES HAMILTON NICHOLAS, R.A.M.C. (RETIRED).—At the Cornwall Assizes held at Bodmin on Oct. 21st, before Mr. Justice Bankes, James H. Nicholas, aged 26 years, was indicted for the murder of his father, James Hamilton Nicholas, L.R.C.P. Irel., L.R.C.S. Edin., Major R.A.M.C. (retired), at Maker, on August 16th last. Mr. S. Wolferstan, the medical officer at the Plymouth Prison, stated that the accused was of unsound mind. The jury found that he was also insane when he committed the crime, and his lordship consequently ordered the prisoner to be kept in custody during His Majesty's pleasure.

RUSSIAN DEMAND FOR "606."—The Moscow town government has ordered for its pharmacy a quantity of the Ehrlich "606" preparation and will, it is stated, dispense it regularly from the month of November. A message to the *Novoe Vremya* adds that the factory which makes the preparation is giving Russia a preference over all other countries, excepting Germany. Russia is calling for 100,000 phials for distribution amongst various municipal institutions in the capitals and provinces, 12,000 being the estimate for Moscow hospitals alone. An account appears in the same paper of observations made on two lepers at the Yamburg leper station with Professor Ehrlich's "606." Having consulted with Professor Ehrlich through the post, Dr. G. L. Yudelevitch determined to try the new method on some of the leper patients. Most of them manifested an indisposition to undergo the test. Two young men of about 20 years of age, whose leprosy was of about ten years' standing and whose internal organs were quite healthy, were consenting parties, and were selected. Both were severe sufferers from photophobia, and one of them had a large ulcer on the leg. Both were warned that the experience might turn out very unpleasant, and that particularly they might find any unpleasant effects mostly in the eyes. They suffered very little pain from the injection, and on the day after it was made, to the surprise of the medical attendant, their fear of the light had gone and their temperature had fallen by about a degree. The reduced

temperature remained permanent, as did the improvement in the eyes; whilst the ulcer on the leg of one of them shows signs of improvement—in fact, shows signs of cicatrisation. The results have been such as to encourage observations in the Yamburg Colony on a larger scale.

THE ALEXANDRA NURSES' HOME, DEVONPORT.—On Oct. 15th Mrs. F. B. Mildmay formally opened the new Alexandra Nurses' Home at Devonport.

PRESENTATION.—The committee which was appointed to arrange for the reception given by the corporation to the British Medical Association in the Guildhall in July has presented its chairman, Alderman Sir Thomas Crosby, with a silver centre-piece as a souvenir of the occasion.

DEVON MEMORIAL TO THE LATE KING.—At a public meeting recently held in Exeter under the presidency of the Lord Lieutenant of Devon, it was decided to invite subscriptions for a "King Edward VII. Memorial Fund." It was also determined that the fund should be administered by the council of the "Devon Queen Victoria Commemoration Fund," which was instructed to allocate the fund to district nursing associations within the county that are affiliated with Queen Victoria's Jubilee Institute for Nurses, and also to utilise some of the subscriptions in combating tuberculosis in Devon. Up to the present the sum of £1272 has been received.

BLOEMFONTEIN AS A HEALTH RESORT.—The weekly edition of the *Cape Times* of Sept. 21st contains an illustrated account of Bloemfontein from the point of view of a health resort. The town, which has a complete modern water-borne sewerage system and a plentiful supply of good water, certainly appears to be a desirable place to visit, the climate being good, the railway facilities convenient, and its natural features attractive. The statement of the writer of the article that "it is quite a frequent occurrence for periods of a month and longer to elapse without there being a single notification of infectious disease" is also a very good testimonial. It is interesting to note that the name Bloemfontein has no connexion with "flowery fountain," the town having got its name from a certain pioneer, Bloem, who made his temporary dwelling by the fountain which still exists near the Victoria Park.

MANCHESTER ROYAL INFIRMARY OLD RESIDENTS' CLUB.—A successful dinner of this recently formed club was held on Oct. 15th at the Midland Hotel, Manchester. The club arose out of a dinner held two years ago shortly before the closing of the old infirmary, for it was then felt that a periodical gathering should take place at which those resident at the same time should have an opportunity of seeing each other. Mr. F. A. Southam was President, and Dr. W. O. Jones (Bowdon), Dr. T. M. Johnson (Pendleton), Mr. Andrew Boutflower, and Dr. H. O. Pilkington acted as vice-presidents; 157 members were present. Dr. Pilkington proposed the toast of the "Manchester Royal Infirmary," and Dr. Arnold Jones that of "The President." Speeches were few and short in order to give men the opportunity of talking over old times. A strong feeling was expressed that meetings should be held every third year.

THE RÖNTGEN SOCIETY.—The Röntgen Society, which was founded in 1897, and is the parent society of the Electro-Therapeutic Section of the Royal Society of Medicine, will begin its fourteenth session on Nov. 3rd, at 20, Hanover-square, W. The lecture by Professor Rutherford will be listened to with much advantage. Professor Rutherford has the unique advantage of possessing more radium than anyone else in the British Isles. The price of radium at the present time is about £224,000 per ounce, and the price of small quantities is difficult to estimate, but the Röntgen Society possesses three carefully prepared standards by which the value of unknown quantities of radium can be compared and their value estimated. Professor Soddy of Glasgow, whose work is well known in connexion with radium and in conjunction with Sir William Ramsay and Sir James Dewar's work on helium, will also lecture. From Amsterdam will come a great physicist in the person of Professor Salomonson, who will unfold some original work on the mysteries of the working of an induction coil by which X rays are produced; and Professor Barkla of King's College will describe the results of some original work on X rays. Mr. J. Hall-Edwards, who has now freed himself from his former suffering caused by X rays, has also promised to take part. The lectures will be published in the Journal of the Röntgen Society. Invitations and further information can be had from the honorary secretary, Dr. A. Howard Pirie, 7, Harley-street, London, W.

DONATIONS AND BEQUESTS.—Under the will of the late Captain H. B. Murray the West London Hospital will receive £1050 for the endowment of a bed, St. Thomas's Hospital and St. George's Hospital will each receive £1000 for a similar purpose, and King's College Hospital and St. Mary's Hospital will also receive £1000 each. To the Hospital for Children, Great Ormond-street, and the Victoria Hospital for Children, Queen's-road, Chelsea, for the endowment of cots, the testator bequeathed £500 each, and £500 each to the Royal Dental Hospital and the London Fever Hospital, Liverpool-road, N., for general purposes, and £100 to the Cancer Hospital, Fulham-road, for general purposes.—Among other large bequests the late Mrs. Sarah Hancock has left £1000 to the Royal Hospital for Incurables at Putney.—As a result of a carnival held at Exmouth (Devon) the sum of £133 has been divided amongst several Exeter and Exmouth medical charities.—As a result of a horticultural show recently held at Alveston (Gloucestershire) the sum of £118 has been handed to the Bristol medical charities.

SOCIETY OF INFANT CONSULTATIONS.—A meeting was held on Oct. 19th at the Marylebone General Dispensary, under the chairmanship of Mr. A. Wynter Blyth, to inaugurate the formation of this society. Dr. Eric Pritchard, chairman of the executive committee, pointed out the value of infant consultations and the necessity of consolidating the many isolated efforts now being made to deal with the subject of infant mortality. Dr. J. F. J. Sykes stated that he was forming a society to deal with infant mortality in St. Pancras, and that he hoped their efforts would not overlap. On the proposal of the chairman it was decided that the society should be founded, having for its objects the bringing together of those interested in the work of infant consultations, and the recording of their experiences by holding meetings, reading papers, and collecting literature. It was agreed that the annual subscription should be 2*s.* 6*d.*, and all who wish for further information should address either of the honorary secretaries, Dr. Ronald Carter, 11, Leonard-place, Kensington, W., or Dr. Janet Lane-Claypon, 69, Prince of Wales's Mansions, Battersea Park, S.W.

BOOKS, ETC., RECEIVED.

AMERICAN LARYNGOLOGICAL ASSOCIATION (Secretary: Dr. James E. Newcomb, 118, West 69th Street, New York City).
Transactions of the Thirty-second Annual Meeting of the American Laryngological Association held at Washington, D.C., May 3rd, 4th, and 5th, 1910. Price not stated.

BAILLIÈRE, TINDALL, AND COX, London.
A Handbook of Intestinal Surgery. By Leonard A. Bidwell, F.R.C.S. Second edition. Price 6*s.* net.
An Elementary Course on Food-testing. By B. A. Burrell, F.I.C., F.C.S. Price 2*s.* 6*d.* net.

BLACKWOOD, WILLIAM, AND SONS, Edinburgh and London.
War, Police, and Watch Dogs. By Major E. H. Richardson, late 45th Regiment (Sherwood Foresters), Fellow of the Zoological Society. Price 5*s.* net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.
Diseases of the Joints and Spine. By Howard Marsh, M.A., M.C. Cantab., F.R.C.S. New and enlarged edition, thoroughly revised by the Author and by C. Gordon Watson, F.R.C.S. Price 10*s.* 6*d.* net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.
Manual of Diseases of Women. By W. E. Fothergill, M.A., B.Sc., M.D. Price not stated.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.
International Clinics. Edited by Henry W. Cattell, A.M., M.D. Philadelphia, U.S.A., with Collaboration. Volume II., Twentieth Series, 1910.

LIVINGSTONE, E. AND S., Edinburgh.
The Hygiene of Infancy and Childhood and the Underlying Factors of Disease. By A. Dingwall Fordyce, M.D., F.R.C.P. Edin. Price 6*s.* net.
A Manual of Surgical Anatomy. By Charles R. Whittaker, F.R.C.S. Edin. Price 5*s.* net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.
The Physiology of Reproduction. By Francis H. A. Marshall, M.A. Cantab., D. Sc. Edin. With a Preface by Professor E. A. Schäfer, Sc.D., LL.D., F.R.S., and Contributions by William Cramer, Ph.D., D.Sc., and James Lochhead, M.A., M.D., B.Sc., F.R.C.S.E. Price 21*s.* net.

MACMILLAN AND CO., LIMITED, London.

Chronicles of Pharmacy. By A. C. Wootton. In two volumes. Vols. I. and II. Price 21s. net.

A Text-book of Zoology. By T. Jeffery Parker, D.Sc., F.R.S., and William A. Haswell, M.A., D.Sc., F.R.S. In two volumes. Vols. I. and II. Price 36s. net.

MARHOLD (CARL) VERLAGSBUCHHANDLUNG, Halle-a.-S.

Die Hämophilie in der Augenheilkunde nebst Bemerkungen zur Durchblutung der Hornhaut. Von A. Vossius. Price Pf.75.

METHUEN AND CO., LIMITED, London.

Francis Bacon. A Sketch of his Life, Works, and Literary Friends; Chiefly from a Bibliographical Point of View. By G. Walter Steeves, M.D. Price 6s. net.

MILLS AND BOON, LIMITED, London.

813. By Maurice Leblanc. Translated by Alexander Teixeira de Mattos. Price 6s.

Woman and Marriage. A Handbook. By Margaret Stephens. With a Preface by Dr. Mary Scharlieb and an Introduction by Mrs. S. A. Barnett. Price 3s. 6d. net.

MURRAY, JOHN, London.

Philosophies. By Ronald Ross, F.R.C.S., D.Sc., LL.D., F.R.S., C.B. Price 1s. net.

OUSELEY, JOHN, LIMITED, Fleet-lane, Farringdon-street, London, E.C.

Recollections of Forty Years. Being an Account at First Hand of Some Famous Criminal Lunacy Cases, English and American; together with Facsimile Letters, Notes, and Other Data concerning them. By L. Forbes Winslow, M.B., D.C.L., LL.D. Price 12s. 6d. net.

REID, ANDREW, AND CO., LIMITED, Newcastle-upon-Tyne.

University of Durham College of Medicine, Newcastle-upon-Tyne. Calendar for the Year, 1910-1911. Price not stated.

ROUTLEDGE, GEORGE, AND SONS, LIMITED, London. (DUTTON, E. P., AND CO., New York.)

First Aid to the Child. A Guide to the Feeding and Treatment of Infants in Health and Disease. By D. Hastings Young, M.B., M.S. Edin., &c. Price 3s. 6d.

SCIENTIFIC PRESS, LIMITED, London.

Gynæcology for Nurses and Gynæcological Nursing. By Comyns Berkeley, B.A., M.B., B.C. Cantab., F.R.C.P. Lond., M.R.C.S. Eng. Price 2s. 6d. net.

SHERRATT AND HUGHES, London and Manchester.

The Problem of the Crippled School-Child. An Account of the Education and Treatment of Crippled School-children in a Residential School. By E. D. Telford, F.R.C.S. Price 6d.

UNIVERSITY CORRESPONDENCE COLLEGE, London.

The London University Guide, 1911. Containing the Regulations for Examinations to be held in 1911 and 1912. Price not stated.

UNIVERSITY OF BRISTOL (James Rafter, Registrar), Bristol.

University of Bristol. Calendar, 1910-11. Price not stated.

UNIVERSITY OF LONDON, South Kensington, London, S.W.

University of London. The Calendar for the Year 1910-1911. Price 5s. net; postage 5d.

Regulations and Courses for Internal Students. September, 1910. Price not stated.

Regulations for External Students. September, 1910. Price 1s. 6d.; postage 4d.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Innere Sekretion, ihre Physiologischen Grundlagen und ihre Bedeutung für die Pathologie. Von Prof. Dr. Artur Biedl, Wien. Mit einem Vorwort von Hofrat Prof. Dr. R. Paltauf, Wien. Price, paper, M.20.; bound, M.22.

VIGOT FRÈRES, Paris.

La Vie Sexuelle et Ses Lois. Par le Dr. Anton Nyström de Stockholm. Préface du Dr. A. Marie. Price Fr.6.

L'Homosexualité et les Types Homosexuels. Par le Docteur Laupts (G. Saint-Paul). Nouvelle Édition de Perversion et Perversité Sexuelles. Préface de Émile Zola. Price Fr.6.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. (SIMPKIN, MARSHALL HAMILTON, KENT, AND CO., LIMITED, London.)

The Prescribing of Spectacles. By Archibald Stanley Percival M.A., M.B., B.C. Cantab. Price 5s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALDERSON, G. G., M.B., B.C., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

BENTON, WILLIAM, M.R.C.S., L.R.C.P. Lond., D.P.H., has been appointed Medical Officer of Health, Medical Officer to Education Committee, and Medical Superintendent of Isolation Hospital of the Borough of East Ham.

BRIDE, J. W., M.B., Ch.B. Vict., M.B., B.S. Lond., has been appointed Medical Officer at the Central Branch of the Manchester Royal Infirmary.

BROWN, A. J., M.R.C.S., L.R.C.P. Lond., has been appointed Accident-room House Surgeon at the Manchester Royal Infirmary.

BUCK, HOWARD, M.B., Ch.B Vict., F.R.C.S. Eng., has been appointed Assistant Surgical Officer to the Manchester Royal Infirmary.

DEWAR, ALLAN, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Denbighshire Infirmary, Denbigh.

DOUGLAS, W. R., F.R.C.S. Eng., has been re-appointed Surgical Tutor at the Manchester Royal Infirmary.

GILDER, M. D. D., M.B., B.S., F.R.C.S. Eng., has been appointed House Physician at University College Hospital.

GILL, S. E., M.D. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Nottingham General Hospital.

HAILES, CLEMENTS, M.D. Edin., F.R.C.S. Edin., has been appointed Honorary Consulting Surgeon to the Bristol Eye Hospital.

HEY, W. H., F.R.C.S. Eng., has been re-appointed Resident Surgical Officer at the Manchester Royal Infirmary.

HIBBERT, CECIL, M.B., Ch.B. Vict., has been appointed Medical Officer at the Central Branch of the Manchester Royal Infirmary.

JOHNSON, J. PRATT, M.B., B.S Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Bacteriologist at the Government Laboratories, Johannesburg, Transvaal.

KENNEDY, M. J. C., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Portumna District of the county of Galway.

LANDSBOROUGH, J., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Tighnabruaich District of the county of Argyll.

MCLACHLAN, WILLIAM, M.D., Ch.B. Edin., has been appointed Assistant Bacteriologist at the Belmont Laboratories of the Metropolitan Asylums Board.

MADDEN, T. J., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kiltamagh District of the county of Mayo.

MARTIN, P. S., M.R.C.S., L.R.C.P. Lond., has been appointed Obstetric Assistant at University College Hospital.

MATHEWS, P., M.D, B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Shrewsbury District of the county of Salop.

O'BYRNE, J. P., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kilmacthomas District of the county of Waterford.

OLLERENSHAW, R., F.R.C.S. Eng., has been appointed Surgical Registrar to the Manchester Royal Infirmary.

PARRY, RICHARD, has been appointed Assistant House Surgeon at the Royal Albert Hospital, Devonport.

RAMSBOTTOM, A., M.D. Vict., D.P.H., has been re-appointed Assistant Medical Officer to the Manchester Royal Infirmary.

RATCLIFF-GAYLARD, JAMES, M.D. Brux., L.R.C.P. & S. Edin., has been appointed Honorary Surgeon to the Birkenhead Maternity Hospital.

RAYNER H. H., F.R.C.S. Eng., has been appointed Assistant Surgical Officer to the Manchester Royal Infirmary.

RITCHIE, DOUGLAS D., M.B., Ch. B. Aberd., has been appointed Medical Assistant at Dundee Royal Infirmary.

SHATTOCK, C. E., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

WHITE, HUGH, M.B., B.S. Glasg., has been appointed Senior House Surgeon at the Royal Albert Hospital, Devonport.

WRIGHT, WILLIAM, M.B., Ch.B. Vict., F.R.C.S. Eng., has been appointed Dean of the Medical College at the London Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with apartments, board, and washing.

BUXTON, DEVONSHIRE HOSPITAL.—Assistant House Surgeon for six months. Salary £70 per annum, with apartments, board, and laundry.

CANCER HOSPITAL, Fulham-road.—Surgeon.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, lodging, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—House Surgeon, unmarried. Salary £80 per annum.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

DEPTFORD MEDICAL MISSION.—Superintendent, non resident. Salary £170 per annum.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

FRENCH HOSPITAL, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer, unmarried. Salary £50 per annum, with full board and laundry.

GORDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge-road, S.W.—House Surgeon. Also Surgeon to Out-patients.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Surgeon.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with rooms, board, and washing.

KING'S COLLEGE HOSPITAL, London, W.C.—Senior Surgical Registrar and Tutor.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer for six months, Two House Physicians for six months, and One House Surgeon for 12 months. Board, washing, and lodging provided.

LIVERPOOL CITY EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN, CLINICAL SCHOOL.—Resident House Physician. Salary at rate of £60 a year, with board and lodging.

LONDON HOSPITAL, E.—Medical Officer in charge of Department of Electrical and Physical Treatment.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Pathologist and Bacteriologist. Salary at rate of 50 guineas per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—House Physician. Salary £75 per annum, with board, residence, and washing. Also Honorary Dental Surgeon.

NEWTOWN, WELSH NATIONAL MEMORIAL.—Lecturers on the Prevention and Cure of Tuberculosis. Salary not exceeding £200, plus railway expenses, for a six months' engagement.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

PENDLEBURY, MANCHESTER CHILDREN'S HOSPITAL.—Visiting Surgeon. Salary £100 per annum.

POPLAR AND STEPNEY SICK ASYLUM, Bromley, Middlesex, E.—Third Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

PRESCOT UNION WORKHOUSE AND INFIRMARY, Whiston.—Assistant Medical Officer. Salary £170 per annum.

PRESTON ROYAL INFIRMARY.—Senior and Junior House Surgeons, unmarried, for six months. Salaries £80 and £60 per annum respectively, with board, residence, and washing.

ROYAL EYE HOSPITAL, or the ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL, Southwark, S.E.—House Surgeon for six months. Salary £52 10s. per annum, with board and residence. Also Clinical Assistants.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, all found.

ST. THOMAS'S HOSPITAL.—Physician to Out patients.

SALFORD UNION INFIRMARY, Hope, Pendleton.—Medical Superintendent. Salary £350 per annum.

SOUTHAMPTON FREE EYE HOSPITAL.—Honorary Physician.

SUNDERLAND UNION WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with rations, apartments, and washing.

THROAT HOSPITAL, Golden-square, W.—Honorary Assistant Surgeon.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WAKEFIELD GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £120 per annum, with board, lodging, and washing.

WEST AFRICAN MEDICAL STAFF.—Number of Appointments. Salary £400 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Physician for Diseases of Women. Also Anæsthetist.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Act at Colne, in the county of Lancaster; and at Ullapool, in the county of Ross and Cromarty.

Births, Marriages, and Deaths.

BIRTHS.

CHURCHILL.—On Oct. 19th, at Crawford House, Wembley, the wife of Joseph H. Churchill, M.R.C.S., L.R.C.P., of twin sons.

FREEMAN.—On Oct. 18th, at Devonshire-place, W., the wife of Dr. John Freeman, of a son.

JEANS.—On Oct. 22nd, at 30, Rodney-street, Liverpool, the wife of Frank Jeans, M.A., M.B. Cantab., F.R.C.S. Eng., of a daughter.

SINGTON.—On Oct. 25th, at Cleveland-gardens, Hyde Park, to Dr. and Mrs. Harold S. Sington, a son.

SPRAWSON.—On Oct. 22nd, at Manor House, Milton, Wells, Somerset, the wife of Captain C. A. Sprawson, M.D. Lond., I.M.S., of a son.

MARRIAGES.

BROWNE—PETER.—On Oct. 19th, in Looe Parish Church, Selina Ethel, second daughter of R. A. Peter, J.P., of Klymiarven, Looe, to Major Frank Dennis Browne, I.M.S.

FOLLIT—HURST-HODGSON.—On Oct. 22nd, at St. Pancras Church, London, Harry Harold Baily Follit, M.A. Cantab., M.R.C.S., D.P.H., to Hermione Millicent Burney, eldest daughter of Thomas Emanuel Hurst-Hodgson, of St. Mary's Abbey, Bedford.

HOW—SUTTHERY.—On Oct. 20th, at St. George's Church, Weald, Sevenoaks, by the Rev. Harold Sutthery, brother of the bride, and the Rev. W. Minto Roberts, Vicar of the parish, F. F. Lawrence How, son of Frederick How, Esq., of The Forelands, Chesham, to Ethel Catharine (Dick), daughter of the late Rev. William Sutthery, Rector of Clifton Reynes, Bucks, and Mrs. Sutthery, Chesham.

DEATHS.

CÆSAR.—On Oct. 17th, the result of an accident, Richard Thompson Cæsar, M.R.C.S., L.S.A., of Bearsted, Kent, aged 72 years.

MRS. KAYLER regrets that she is unable to reply personally to the many kind letters of sympathy she has received from the friends and colleagues of her deceased father, Sydney Ringer. She trusts they will accept this acknowledgment of her sincere thanks.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PHYSICIANS AND CITIES.

To the Editor of THE LANCET.

SIR,—Your note last week under the above heading was very suggestive of the growing prevalence of sanitary doctrines.

The view taken of the medical man's position in the State has varied, naturally enough, at different periods of the world's history. In Homer's time the army surgeon was regarded as worth a large number of other men on account of his skill—

> ἰητρὸς γὰρ ἀνὴρ πολλῶν ἀντάξιος ἄλλων
> ἰοὺς τ' ἐκτάμνειν ἐπί τ' ἤπια φάρμακα πάσσειν.
>
> Il. xi. 514.

"For a leech is worth many other men, to cut out arrows and to spread soothing applications (on the wound)."

Plato in his Republic declares that the ideal physician should be one who had experienced all kinds of diseases in his own body. But he was not to treat every kind of disease, only epidemics and wounds. Patients who were ill from their own fault—i.e., from excess in any shape or form—were to be left to die, being no good to themselves or to the State (The Republic, Bk. III., 407 et seq.). Modern ideas differ from this, and it is not often nowadays that a physician is also an architect, at least not with dead stones. But the glory of the modern profession of medicine is that it deals with the living stones of the great temple of humanity. Drainage, sanitation, and prevention of disease are the edifices which the modern medical man raises in our modern cities. It is difficult to realise that only 50 years ago much of the space between St. Bartholomew's Hospital and St. Paul's was occupied by cellar slaughter-houses, into which wretched sheep were pitched, often to lie awaiting slaughter with broken legs, while blood and offal lay about in the gutters. From these and similar horrors with their train of disease and death modern medicine has delivered us. It is a significant fact that to-day anyone passing in front of the National Gallery sees the excavation for one of the main sewers of London in the roadway. The æsthetics of healthy bodies are no less important than the æsthetics of beautiful buildings or pictures, although a healthy community has a tendency to demand beauty both in its recreations and its buildings.

The Town Planning Conference, to which you have alluded but briefly, shows that this feeling is now abroad.

I am, Sir, yours faithfully,

A BART'S MAN.

BURIAL GROUNDS AND PUBLIC HEALTH.

A PROPOSAL was made recently by the Eastbourne burial board with the object of acquiring additional land for the enlargement of the principal borough cemetery at Ocklynge, but on the grounds that the public health might be endangered if such an enlargement were made the proposal has been abandoned. Application was made by the board to the Duke of Devonshire, the owner of the land adjoining the cemetery, but the views of his grace were foreshadowed by the figure he placed on the land. Seventeen years ago the late Duke sold 10 acres for £7000, or £700 an acre. The present Duke has asked £12,500 for 7½ acres, or about £1700 per acre. A vestry meeting discussed the offer, but decided before proceeding further to consult Dr. W. G. Willoughby, medical officer of health, and that gentleman's report has resulted in the Duke of Devonshire withdrawing the offer he made. Dr. Willoughby's report was as follows: "From a sanitary point of view the chief nuisances liable to be caused by the cemetery are the pollution of water-supplies and the emission of obnoxious gases from the ground. As there are no domestic water-supplies in the vicinity to be considered, the former of these two items hardly comes into consideration, the Eastbourne water-supply being taken from sources some miles distant. The matter of the emission of gases is, however, more important. The opinion of the official medical advisers of the English Government, according to the memorandum of 1838, was that a distance of 200 yards is sufficient to prevent any injury to health as regards noxious matter transmitted through the air from a well-kept cemetery. The desirability of the enlargement of the Ocklynge cemetery, from a sanitary point of view, depends, therefore, on its liability to be sooner or later closely surrounded by houses, and if so, the fewer persons buried there the better. Judging from past experience, there being apparently no provision to prevent houses from being built close up to a cemetery, houses will probably be built within what might be called the 'danger zone' of the Ocklynge cemetery, whether enlarged or not. The more the interments, the greater the possible risk; the number of corpses in proportion to space being also an important consideration." It would have been difficult to see how after such a report as this the burial board could have come to any other conclusion than to abandon the proposed extension. Moreover, the question is not a

very pressing one. Consecrated land will be available at Ocklynge until about the year 1925, and unconsecrated until about the year 1916, at which latter date burials of that class will take place at Langney. Here there are 16½ acres of land—sufficient burying-space for another 30 or 40 years.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1910:—

Nov. 7th–12th (Cape Town).—Twelfth South African Medical Congress (1910).

In 1911:—

May–October (Dresden).—International Hygiene Exhibition.
June and July (Romford).—Town Planning and Modern House and Cottage Exhibition.
July (Birmingham).—British Medical Association.
August or September (Berlin).—Third International Laryngo-Rhinological Congress.
September (Brussels).—Exhibition of Fractures.
Sept. 11th–16th (The Hague).—Thirteenth International Congress on Alcoholism.
" 18th–23rd (Sydney).—Australasian Medical Congress.
" 24th–30th (Rome).—International Congress on Tuberculosis.
" 25th–29th (Rome) Seventh International Congress of Dermatology and Syphilology.
October (Cologne).—International Congress of Criminal Anthropology.

In 1912:—

September (Prague).—International Congress of Radiology and Medical Electrology.
September (Berlin).—Sixth International Congress of Obstetrics and Gynæcology.
September (Washington, D.C.).—Fifteenth International Congress of Hygiene and Demography.

In 1913:—

(London).—Seventeenth International Congress of Medicine.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—C. Bolton, J. C. G. Ledingham), at the London Hospital Medical College, E.: at 8.30 P.M.

Dr. Leonard Hill: The Influence of the Movement of the Air on Human Beings.
Dr. Martin Flack: Action of the Serio-auricular Node.
Mr. F. W. Twort: Cultivation of Bacillus Lepræ and the Bacillus of Johne's Disease.
Dr. W. Bulloch and Mr. P. Fildes: A Study of Tubercle Bacilli Isolated from Cases of Pulmonary Tuberculosis in Man.
Dr. James McIntosh: The Influence of dioxydiamidoarsenobenzol on Spirochæte Infections.
Dr. W. Bulloch: The Pedigree of a Great Family of Hæmophiliacs.
Dr. H. M. Turnbull: Pathological Anatomical Preparations.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—G. F. Blacker, J. H. Targett), at 11, Chandos-street, W.: at 8 P.M.

Specimens:
Lieut.-Col. Dimmock: Sarcoma of Ovary.
Mr. J. Barris: Intestinal Obstructian caused by a Fibromamyoma Uteri.
Mr. P. P. Cole: A Case of Pseudo Hermaphroditism.
Dr. H. N. Lewers: Sarcoma of the Vulva.
Dr. Clifford White: Sarcoma of the Vulva.
Mr. Douglas Drew: (1) A Case of Hermaphroditism; (2) Sarcoma of the Uterus.
Dr. G. F. Blacker: Sarcomatous Polypus of the Uterus.

Paper:
Dr. Archibald Donald and Dr. Fletcher Shaw: Symptoms and Treatment of Chronic Endometritis, with Special Reference to the After-results of Curettage.

NEUROLOGICAL SECTION (Hon. Secretaries—E. Farquhar Buzzard, Wilfred Harris): at 8.30 P.M.

Presidential Address:
Dr. J. A. Ormerod: Two Theories of Hysteria.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—L. Hemington Pegler, W. H. Kelson), at 11, Chandos street, W.: at 5 P.M.

Opening Remarks by the President (Dr. P. Watson Williams).

Cases:
Will be shown by Dr. Dan McKenzie, Mr. Harold Barwell, Dr. StClair Thomson, Dr. Jobson Horne, Dr. Cyril Horsford, Dr. Scanes Spicer, Dr. William Hill, and others.

SECTION OF ANÆSTHETICS (Hon. Secretaries—R. W. Collum, Mrs. Dickinson Berry): at 8.30 P.M.

Paper:
Mr. A. L. Flemming: Prolonged Anæsthesia Maintained by Ether and Gas Alternately.

Demonstration:
Mr. J. F. Trewby: A New Inhaler for Administering Nitrous Oxide Gas by the Nasal Method.

RONTGEN SOCIETY, 20, Hanover-square, W.

THURSDAY.—8.15 P.M., Dr. G. H. Rodman: Presidential Address.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Dr. Barnes: Motion—That Qualified Surgeon Dentists be admitted to the Membership of the Society Clinical Cases.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersith.

FRIDAY.—8 P.M., Cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY.—5 P.M., Dr. G. N. Pitt: The Results of Bronchial Obstruction. (Bradshaw Lecture.)
THURSDAY.—5 P.M., Sir T. C. Allbutt, K.C.B.: Greek Medicine in Rome. (Fitz Patrick Lecture.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Rickets, Cretinism, &c. (Museum Demonstration.)
FRIDAY.—5 P.M., Prof. A. Keith: Specimens illustrating Acromegaly and Some Allied Conditions. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Dr. C. R. Box: Syphilitic Hemiplegia in Childhood.
TUESDAY.—4 P.M., Dr. E. Pritchard: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. E. Herman: Abortion.
WEDNESDAY.—4 P.M, Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. H. Savage: Recoveries, Remissions, and Relapses in Mental Disorder.
THURSDAY.—4 P.M., Mr. J. T. Walker: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. Pasteur: Radiography in Medical Diagnosis.
FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon: Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Edwards: Rectal Surgery.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Diseases of the Throat and Nose, the Lines on which Treatment should be Based. (Lecture II.)
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 12.15 P.M., Lecture: Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine. (Lecture III.)
THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. S. Taylor: "A Paralytic Stroke."
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Mr. R. Lake: Aural Vertigo.
TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Stokes-Adams Disease.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Dr. C. O. Hawthorne: Spastic Paralysis in Early Life.
FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. Howell Evans), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).
TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinic:—Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. Howell Evans). 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie). 4.30 P.M., Lecture-Demonstration:—Dr. G. G. Macdonald: Puerperal Infection.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Taylor: Clinical Cases.
FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. S. Scott: Vertigo.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY.—3.45 P.M., Lecture:—Dr. A. Wylie: Larynx

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Syphilis—History and Primary Invasion (Constitutional and Local); Eruptions, Erythematous (I., Macular, and II., Maculo-Papular).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Lecture:—Dr. Maguire: Intra-thoracic Tumours.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. F. C. Moore: The Differential Diagnosis of Dyspepsia. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.),

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

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FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (5th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 26th, 1910.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 20	29·60	N.E.	0·04	85	54	41	45	46	Cloudy
,, 21	29·76	N.E.	0·01	68	58	45	47	48	Overcast
,, 22	29·93	N.E.	...	60	56	48	50	52	Overcast
,, 23	29·93	N.E.	...	68	52	45	48	50	Fine
,, 24	29·81	E.	...	71	56	40	49	51	Overcast
,, 25	29·93	E.	...	69	58	51	52	53	Cloudy
,, 26	30·11	E.	...	92	60	53	54	55	Cloudy

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